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The Review of Metaphysics

PHILOSOPHICAL QUARTERLY

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The Reality of Appearance
Deserts' Provisional Metaphysics
Hume's Theory of General Ideas
Poetry, Religion and Theology
Criticism Called
Fact, Fiction and Forecast
Alferov's Radical Experimentalism
Plato's Theory of Schemer, II
Wolff's Doctrine of Causality
Summaries and Comments

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RELATIVITY AND THE STATUS OF SPACE

MILIĆ ČAPEK

IT is generally known that the theory of relativity created the concept of the four-dimensional continuum of point-events, a continuum in which space and time, traditionally conceived as separate entities, have been fused into one single being called "space-time." But the true meaning of this fusion was far from being clearly understood, especially in philosophical circles. Émile Meyerson in his philosophical commentary on the theory of relativity gives a long list of thinkers, both philosophers and physicists, who understood this fusion as an operation in which the temporal component was absorbed by the spatial.¹ According to their view, the proposed fusion was nothing but a *spatialization of time*; time itself has become an additional fourth dimension of space on which all events, past, present and future, are juxtaposed. According to Einstein himself, "becoming" in the three-dimensional space has been transformed into "being" in the world of four dimensions;² according to H. Weyl, "the objective world *is*, it does not become"; it appears to become only to our blinded consciousness which creeps along its "world-line" into the "future."³ It is evident that in this view the future is only a remote part of space-time, i.e., remote only to our accidental spatio-temporal location; but objectively it *exists* in the same sense as the American continent existed prior to the discovery by Columbus. It is hardly surprising to find among the representatives of this view a belief that the theory of relativity was anticipated by H. G. Wells in his famous novel *Time-Machine* in which a fictitious traveler moves along the "fourth dimension" as freely as along the three spatial directions.⁴ In a relatively recent essay Kurt Gödel seriously con-

¹ E. Meyerson, *La Déduction Relativiste* (Paris, 1925), pp. 96-102.

² Op. cit., p. 100.

³ H. Weyl, *Was ist Materie?* (Berlin, 1924), p. 87, also *Mind and Nature* (Philadelphia, 1934), p. 76.

⁴ Ludwig Silberstein, *The Theory of Relativity* (London, 1914), p. 134.

siders the Wellsian idea of a round-trip "into any region of the past, present and future and back again"; it is even more significant that Einstein's own comment about it is not unfavorable.⁶ The very same idea is expressed by Ernst Cassirer when he claims that in the theory of relativity the anisotropy of time disappears as the distinction between the "past" and the "future" is purely conventional, comparable to the difference between "plus" and "minus" signs in space.⁷ Both Weyl and Cassirer saw in the theory of relativity a confirmation of Kant's view about the ideality of time: time, being only a form of our perception, cannot be applied to "things in themselves."

It is true that there were some important dissenting voices among physicists as well as among philosophers. Paul Langevin was one of the first who protested against calling time "the fourth dimension of space."⁸ Einstein himself admitted that the asymmetry of time is preserved even in its relativistic fusion with space when he recognized that "we cannot send wire-messages into the past." When Meyerson in the session of the French Philosophical Society of April 6, 1922 insisted on the distinction of space and time even in the theory of relativity, Einstein, who attended the session, explicitly agreed. Meyerson's argument was fully developed in his book, *La Déduction Relativiste*, and Einstein in his highly favorable comment about it again praised Meyerson's criticism of the spatialization of time. According to Einstein, the spatialization of time is a misinterpretation of the theory of relativity, a misinterpretation committed not only by popularizers, but even by many scientists, though it is often present in their minds only implicitly.⁹ Hermann Weyl, when he was in a less

⁶ Kurt Gödel, "A Remark about the Relationship between Relativity Theory and Idealistic Philosophy"; Albert Einstein, "Reply to Criticism." Both in: *Albert Einstein: Philosopher-Scientist*, ed. P. A. Schilpp (Evanston, 1949), pp. 560, 687-88.

⁷ E. Cassirer, *Zur Einstein'schen Relativitätstheorie* (Berlin, 1921), p. 119.

⁸ Paul Langevin, "L'aspect général de la théorie de la relativité," quoted by Meyerson, op. cit., p. 97.

⁹ *Bulletin de la Société française de Philosophie*, 6 avril 1922, p. 112 (Einstein's reply to Meyerson): "Dans le continuum à quatre dimensions il est certain que toutes les dimensions ne sont pas équivalentes." A. Einstein, "A propos de *La Déduction Relativiste* de M. E. Meyerson," *Revue*

Kantian mood of thought, warned against a facile confusion of space and time when he claimed that it is more accurate to speak about the $3+1$ -dimensional continuum instead of the four-dimensional entity.⁹ In the same decade, Eddington among the physicists and Whitehead, Bergson and Reichenbach among the philosophers issued similar warnings.¹⁰

What then is the true meaning of the relativistic fusion of space and time? The very fact that there was a disagreement about it not only among philosophers, but also among physicists, and that even the founders of the theory like Einstein and Weyl were not always consistent in their interpretations, shows the need for a clarifying analysis. The present paper intends to show first that the spatialization of time is a perennial philosophical illusion which has its roots in the modes of thought characterizing the major part of the philosophical and scientific tradition, and that this spatialization of time, instead of being a correct interpretation of the theory of relativity, is precisely a distortion of its true meaning, a distortion which was made possible by the persistent influence of the intellectual habits referred to above; second, that an attentive interpretation of the same theory shows that the fusion of space and time is more accurately characterized as a *temporalization* or *dynamization* of space than a spatialization of time; and finally, that this dynamization of space does not mean a fanciful negation of space or its reduction to a one-dimensional con-

Philosophique, CV (1928), p. 165: "Le temps et l'espace sont bien fondus dans un même et unique *continuum*, mais celui-ci n'est pas isotrope. Mais la tendance qu'il [Meyerson] dénonce pour être souvent latente dans l'esprit des physiciens, n'en est pas moins réelle et profonde, et les outrances des vulgarisateurs et même de maints savants dans leur exposé de la relativité en sont des manifestations non équivoques."

⁹ H. Weyl, *Space-Time-Matter*, tr. H. L. Brose (London, 1922), p. 283. About the ambiguity of Weyl's attitude see Meyerson, loc. cit., p. 99.

¹⁰ Eddington, *Space, Time and Gravitation* (Cambridge, 1920), pp. 51-52; A. N. Whitehead, *The Concept of Nature* (Cambridge, 1920), Ch. III and p. 178; H. Bergson, *Durée et Simultanéité* (Paris, 1922), in particular Ch. VI; H. Reichenbach, *Die Philosophie der Raum-Zeit Lehre* (Berlin, 1928), p. 134 (concerning the static misinterpretation of the "world" of Minkowski). Eddington's view was misunderstood by Meyerson; the passage quoted by him represents the static view which Eddington, as the context indicates, rejects. See also Eddington, *The Nature of the Physical World* (Cambridge, 1928), pp. 50-52, 55-58.

tinuum of time, but only its incorporation into a type of becoming which together with its dynamical temporal unfolding still possesses a certain, so to speak, *transversal extent or width*.

I. THE ILLUSION OF SPATIALIZATION

The nature of the fallacy of spatializing time and its far-reaching disastrous influence on philosophical thinking is still largely misunderstood in spite of repeated warnings of Bergson, Meyerson and Whitehead and their followers. Yet, it is certain that what may be called the Eleatic tradition is one of the most persistent features of philosophical thought. Although Parmenides and his immediate followers remained isolated in their radical and extreme denial of change and succession, they were followed by many philosophers in their insistence that the true reality is timeless, and that change and succession belong merely to the realm of shadowy and shifting phenomenal appearances. This belief in the contrast between the true and changeless reality and the half-real realm of becoming is common to Plato, Plotinus, the medieval philosophers, Spinoza, Kant, Schopenhauer, Bradley and Mc Taggart, to name only a few, and the fact that it is present under various terminological garments in so widely different thinkers in widely different periods makes it even more significant. This tendency is present not only in philosophers with idealistic leanings; it is equally, though less explicitly, present among naturalistically-minded philosophers and philosophically-minded scientists. In this second group the Eleatic twist of mind takes precisely a less conspicuous, but in its implications equally radical form of the spatialization of time. It is certainly significant and hardly accidental that one of the first attempts at symbolizing time by a geometrical, infinitely divisible line resulted in Zeno's denial of change and motion, and in his defense of the immutable Parmenidean One. It is obvious that the elimination of time and its spatialization are closely correlated, the latter being merely a more concrete form of the former. But the spatialization of time took a more systematic form only in the modern period simultaneously with the development of analytical geometry and classical mechanics. Descartes, who was the founder of the first and one of the co-founders of the second, was only consistent when he called time a "dimension," and when he

followed the analogy between a geometrical point and a temporal instant to its logical, though ultimately absurd, consequences. In the symbolizing of time by the axis t (of independent variables) there was first no conscious attempt at spatializing time; the dynamic and progressive character of time was symbolized by an ideal motion of the point-like present sliding along the time-axis from the past to the future. But in contemplating a spatial diagram of temporal process it is easy and psychologically natural to forget its underlying dynamic meaning. Any spatial symbol contemplated at a given moment is *completed*, i.e., all its parts are given *at once*, simultaneously, in contrast with the temporal reality which is by its own nature *incomplete* and whose parts—if we are justified to use such a thoroughly inadequate term—are *ex definitione* successive, i.e., non-simultaneous. The spatial symbolism leads us to forget the essential qualitative differences between the past, the present and the future, or at least to reduce them to simple *differences of position*: the "past" events are symbolized by the points lying to the left of the point representing the "present," while the "future" events lie to the right of the same point on the same already-drawn "temporal axis." Thus the spatial diagram suggests the wrong idea that the successive moments of time really *co-exist* and that their pastness and futurity is not genuine, but only "phenomenal" or "apparent." From such a point of view the future events already exist, and what we call their future occurrence is only an unimportant formality, unavoidable for a finite human consciousness, but not for a superhuman intelligence free of human limitations. It is true that when Laplace spoke about such a superhuman intelligence he did not mean the medieval God, but only the impersonal order of nature in which past, present and future occurrences are timelessly contained; but his strictly deterministic point of view was, after all, not basically different from the medieval and the early Protestant ideas of predestination. It is evident that the tendency to spatialize time was entirely consonant with the idea of classical determination or rather pre-determination. Thus when d'Alembert called duration "the fourth dimension" and when Lagrange characterized mechanics as a "geometry of four dimensions," they were only preparing the way for the Laplacean timeless vision of reality which belongs to the same tradition as the classical views of Par-

menides and Spinoza: the universe with its whole history is conceived as a single huge bloc, given *at once*. In such a scheme time itself, as Bergson wittily observed, is reduced to "our incapacity to know everything at once."¹¹

It is precisely this persistent Eleatic tendency which has cropped up again in the presence of the relativity theory and which has peculiarly distorted its meaning. Sometimes those who interpret the relativistic space-time in the sense of the timeless four-dimensional entity are aware of their intellectual affinity with the Eleatic tradition; this is true, for instance, of Kurt Gödel, who sees in the theory of relativity a confirmation of the views of Parmenides, Kant and McTaggart.¹² But the relativistic fusion of space and time has a meaning entirely different from a simple addition of one dimension to the three-dimensional continuum of space. This difference becomes especially obvious when we compare the relativistic space-time to the space-time of classical physics. It is true that the expression "space-time" rarely occurs in the text-books of classical physics, but although the term itself was missing, its meaning was implicitly present, as Lagrange's word "*géométrie à quatre dimensions*" plainly indicates. Its precise meaning as a mode of union between the spatial and temporal component may be graphically illustrated by a three-dimensional diagram in which the time-dimension is represented by a straight horizontal line while parallel vertical planes, all perpendicular to the time-axis, represent successive spaces, each of them containing an instantaneous configuration of material particles and thus symbolizing "the state of the world at a given instant." It is true that the diagram has one dimension less than a four-dimensional manifold, but classical physics assumed that, with the exception of this single feature, the diagram was basically correct and represented accurately the relation between space and time. The history of the physical universe is thus represented by the continuous succession of instantaneous spaces,

¹¹ *Creative Evolution*, tr. A. Mitchell (New York, 1911), p. 45: "Radical mechanism implies a metaphysics in which the totality of the real is postulated complete in eternity, and in which the apparent duration of things expresses merely the infirmity of a mind to know everything at once."

¹² Op. cit., p. 557.

each of them representing the state of the world at a given instant. It is evident that, according to this representation, the concept of absolute simultaneity and that of instantaneous space are not only closely related, but *basically identical*; each instantaneous space is nothing but a three-dimensional layer of simultaneous events in this world at this particular moment. In other words, successive spaces are only *instantaneous cuts* across the four-dimensional becoming, each cut containing all the events which are simultaneous in an absolute sense.¹³ The essential idea, the importance of which was realized only later, in contrast to the revolutionary ideas of the theory of relativity, is that at each particular moment an instantaneous cross-section in the four-dimensional manifold *may be obtained*, which means that by this operation space can *always* be completely and unambiguously separated from time. All instantaneous spaces are integrated into the one timeless Newtonian space of classical physics, which is both an absolute frame of reference (by means of which true absolute motions may be distinguished from relative and apparent ones), and an objective substratum for all absolutely simultaneous events.

How successive instantaneous spaces are strung together into one timeless space is a question in which classical physics took little interest; to some philosophers, however, the question was not an idle one, and they made serious efforts to answer it. Long before Whitehead, some thinkers became aware of Whitehead's question: how are the successive instantaneous spaces merged into one space enduring through time?¹⁴ This question becomes meaningful as

¹³ P. Langevin, "Le temps, l'espace et la causalité dans la physique moderne," *Bulletin de la Société française de Philosophie*, séance du 19 octobre 1911: "Cela revient à dire que pour définir l'espace, on ne peut envisager que l'état du système à un moment donné, on doit faire dans l'ensemble plus complexe de l'Univers une coupe à temps donné"; R. Carnap, "Über die Abhängigkeit der Eigenschaften des Raumes von denen der Zeit," *Kantstudien* (1925), pp. 339-40; "Es lässt sich zeigen, dass eine solche Klasse [of "Weltpunkten," forming a "momentary space"—"Momentraum" or "Raumklasse"] mit jeder Weltlinie nur einen Weltpunkt gemein hat"; H. Weyl, *Die Philosophie der Mathematik und Naturwissenschaft* (1927), p. 65: "Alle gleichzeitigen Weltpunkte bilden eine dreidimensionale Schicht, alle gleichartigen Weltpunkte eine dreidimensionale Faser."

¹⁴ *The Concept of Nature*, pp. 71-97.

soon as it is realized that each individual space in virtue of its instantaneous nature is foreign to duration, so that no dynamic enduring pattern can be obtained simply by juxtaposing durationless instantaneous spaces, even if this juxtaposition is verbally called "succession." This is again Zeno's problem. The only difference is that while Zeno faced the problem of constructing motion out of motionless positions, classical physics tried to reconstruct enduring space out of instantaneous spaces, or, in other words, spatio-temporal becoming out of becomingless "instantaneous states of the world." Descartes, following in this respect the Arabian atomists and realizing that no dynamical link can logically be obtained between passageless and purely external instants, was perfectly consistent in concluding that our world is perpetually perishing and continually being re-created by God. Thus the divine *creatio continua* supplied a missing dynamical link joining durationless instants.¹³

But this, though not unrelated to our discussion, is something of a digression. Physicists were generally unaware of such metaphysical subtleties, and confidently accepted what may be called the *stratified structure*¹⁴ of the spatio-temporal world history, each stratum being represented by one instantaneous space with a corresponding material configuration. If they adopt a less dogmatic attitude in this respect today, it is because the pressure of new physical experience forces them to do so. It was precisely the theory of relativity and all the facts supporting it which imposed a profound revision of the classical spatio-temporal scheme.

There is no place here for surveying all the facts and experiments which have led to the relativity theory. It will be sufficient for our purpose to state the central ideas of the new theory. Its paradoxical nature is mainly due to the *denials* on which it is based: the denial of absolute space, absolute motion and absolute simultaneity. All these denials are very closely related; a denial of

¹³ Concerning this problem in Descartes' philosophy, see Jean Wahl, *Du rôle de l'idée de l'instant dans la philosophie de Descartes*, 2^e Ed. (Paris, 1953), especially pp. 18-19. For the notion of instantaneous substances in the Arabian atomism of Mutakallimun, see K. Lasswitz, *Geschichte der Atomistik vom Mittelalter bis Newton*, I (Hamburg and Leipzig, 1890), pp. 141-46.

¹⁴ Eddington's expression in *The Nature of the Physical World*, p. 47.

one of them implies a denial of other two. It was the impossibility of discovering the absolute motion of the earth by mechanical as well as by optical means which led to the denial of the absolute frame of reference, i.e. of the absolute Newtonian space. This absolute frame of reference was believed at that time to be embodied in the electromagnetic aether and it was hoped that the true motion in respect to this aether might be discernible, if not by mechanical, then at least by electromagnetic means; thus an empirical criterion, by which "real" or "absolute" motions could be distinguished from "apparent" or "relative" ones, could at last be gained. Hence there was great disappointment when these hopes were not fulfilled. The rejection of the absolute frame of reference was a bold and difficult step which, however, in spite of its baffling character, was the only realistic attitude suggested by the discovery of the constant velocity of light. The fact that the velocity of light does not depend on the relative motion of the observer or on the source of light is firmly established; any hope that the effects of the absolute motion may be discovered some time in the future is hardly more than wishful thinking, the force of which only measures the resistance of our Newtonian subconsciousness to any modification imposed by new experience.

As the concepts of absolute space and of absolute motion are correlative, the impossibility and unreality of one entails the impossibility and unreality of the other. But the absolute space at each particular moment is nothing more than the totality of the events simultaneous at this moment; consequently, the rejection of the former implies the rejection of the simultaneity of distant events. This may be expressed by stating that there is no possibility of carving instantaneous spaces out of the dynamic totality of the spatio-temporal becoming. In classical space-time, instantaneous cross-sections were admissible at *any* moment and such instantaneous cuts arranged in serial order represented the very structure of the world history. But such cuts are impossible in the theory of relativity; or at least they do not have objective significance; the splitting of space-time into its spatial and temporal components varies from one inertial system to another and is the same only for what Whitehead calls "consentient sets," i.e., for

systems which are mutually at rest.¹⁷ Only observers in such systems can agree on the simultaneity of distant events. But as there is no privileged inertial system, there is also no privileged way of separating space from time, and therefore no privileged way of ascertaining which distant events are simultaneous in the objective and absolute sense. As classical space is nothing but the totality of simultaneous events, its objective significance necessarily disappears as soon as the objective existence of absolute simultaneity is lost.

II. THE DYNAMIZATION OF SPACE

In the last statement we have a clue to the true meaning of the fusion of space and time in the relativity theory. According to what has already been said it is clear that, contrary to the popular prejudice strengthened by pseudo-philosophical accounts of the theory, this synthesizing operation *does not spatialize time*; on the contrary, it means a *temporalization*, or at least *dynamization* of space. The classical space of Euclid and Newton was an immutable and static entity, entirely foreign to temporal passage; the only relation which the points in such a space may have is the relation of *juxtaposition*, which is *ex definitione* timeless, unless we consider *simultaneous juxtaposition* to be a temporal relation too. In any case, the concepts of distance and of succession were defined as mutually exclusive; any distance between two points in space is by its own nature instantaneous, i.e., timeless. The immutability of space was explicitly emphasized in Newton's famous definition; one century later the author of the *Critique of Pure Reason* expressed the same idea in a different form when he insisted on the mutual exclusivity of spatial and temporal relations; and as late as at the beginning of the present century Bertrand Russell claimed that the independence of space and time cannot be denied without falling into the grossest abur-

¹⁷ *An Enquiry Concerning the Principles of Natural Knowledge* (Cambridge, 1919), p. 31.

dities."¹⁸ Now relativity theory arises boldly to challenge this time-honored belief: it asserts that there are no other relations in the universe *except successive temporal relations*, and what we call spatial relations are merely disguised temporal relations."¹⁹ Classical space, conceived as a simultaneous juxtaposition of points simply *does not exist*; to admit the contrary would mean to admit the absolute simultaneity of distant events which is precisely what the special theory of relativity explicitly denies. As already stated, absolute space and absolute simultaneity imply each other; the denial of one implies the denial of the other. Without absolute space there is no absolute simultaneity and vice versa. Newtonian static space is nothing but an artificial instantaneous cut across cosmic becoming. Such cuts, in spite of their artificiality, have their approximate *validity* and *practical justification* for small distances and velocities—small in comparison with the velocity of light—but do not have any objective counterpart in the structure of reality. Since the advent of relativity, according to Whitehead, "the spatial relations must stretch across time."²⁰

Before we consider this apparently baffling and esoteric statement, it is important to understand why the opposite interpretation enjoyed so much popularity. How was it possible that what is in truth a dynamization of space was misunderstood and conceived in a very opposite sense, i.e., as a spatialization of time? The answer has, in part, already been given: the habit of spatializing time is only one mode of the tendency to eliminate time, the tendency which is as old as philosophy. It was precisely this

¹⁸ *Critique of Pure Reason*, tr. Norman Kemp Smith (London, 1929), p. 75: "Time has only one dimension; different times are not simultaneous, but successive (just as different spaces are not successive but simultaneous)." B. Russell, "Les axiomes propres à Euclide sont-ils empiriques?" *Revue de Métaphysique et de Morale*, VI (1898), p. 773: "L'indépendance de l'espace et du temps, en fait, ne peut être contestée sans les plus grossières absurdités." In this article Russell only defended the view expounded in his *An Essay on the Foundations of Geometry* (Cambridge, 1897), in which he strongly insisted on the basic unchangeability of space and rejected Calinon's prophetic idea of the possibility of a variable space constant (pp. 113, 133).

¹⁹ In view of the qualification in the last part of this paper, the term "connections" instead of "relations" would be more adequate.

²⁰ *An Enquiry*, p. 6.

tendency which, consciously or unconsciously, led Minkowski to use the word "four-dimensional *world*" instead "four-dimensional *becoming*." A great many interpreters were misled by the static connotation of the term "world"; what is in truth a dynamically unfolding becoming was mistakenly conceived as a completed whole. But there are also other reasons, though they are not unrelated to the first one. The habit of spatializing time could not have survived without being at least in part sanctioned by experience. Transformation of relations of succession into timeless instantaneous connections does not begin at the level of abstract thought; it really begins at the level of sensory, in particular visual, perception. Human perception is of such nature that it discloses to us only those kinds of succession whose rhythm is approximately the same as its own; in other words, motions which are either too slow or too fast are not perceived at all, or—which is only a different way of saying the same thing—they are transformed into immobilities. Hence the profound observation of Bergson that "*percevoir signifie immobiliser.*"²¹ Thus the motion of a pointer across a dial is not observed, only inferred; we do not perceive it, but we conclude that it exists when we see its different positions at different moments. But positions themselves are entirely motionless to our eye. Similarly, when motions are too fast, they are not perceived at all; their successive positions are transformed into motionless trajectories.

If even moderately fast moving bodies appear to our imperfect sense to be present simultaneously in all the positions of their trajectories, how much more inconspicuous is the successive character of such fabulously fast physical actions as light and gravitation. Their propagation is practically instantaneous; when we turn on a switch, the room is filled with light at once and the effect seems to be simultaneous with its cause. Today we know that this is not, strictly speaking, true; since the time of Olaf Römer, who in this respect confirmed the guess of ancient and some medieval atomists,²² we know that even light requires a cer-

²¹ *Matière et Mémoire* (Paris, 1896), p. 232.

²² Lucretius, *On the Nature of Things*, Bk. II, vv. 142 f. On the condemnation of Nicolas d'Autricourt by the University of Paris because he taught atomism and the finite velocity of light, see Lasswitz, op. cit., pp. 257-58.

tain time to move through space. But the corresponding time intervals are so minute on the human and even on the planetary scale that they may, for practical purposes, be safely disregarded; to assert that the luminous and gravitational interaction between the objects of our daily experience is instantaneous, is a permissible metaphor. But the situation is already different when we turn to our closest cosmic neighbour—the moon—and its relation to our planet. The gravitational and luminous links between the earth and its satellite are no longer instantaneous. They require a certain interval of time which, though still small, cannot be disregarded: one second. As the distance increases, the duration of causal links increases correspondingly; it is eight minutes for the sun, four hours for Neptune, about four years for the nearest star, fifty years for Polaris, a thousand years for the great nebula in Orion, one million years for the nebula in Andromeda. But our reason—or our imagination—retains habits acquired by its perpetual contact with our immediate biological surroundings. Even when the finite velocity of light and of electromagnetic vibrations in general was discovered, the habit of postulating instantaneous connections between distant objects did not disappear; hence the distinction drawn between successive causal connections occurring *in space* and instantaneous geometrical connections which are *space itself*. This distinction, which was so fundamental for classical physics, is rejected by the theory of relativity. In denying that absolute space is the objectively real substratum of simultaneous events, modern physics simply asserts that the only real connections in the world are successive causal links and nothing more. From this point of view it is wrong to set up first an instantaneous connection between two simultaneously existing objects like the earth and Polaris; in other words, it is wrong to localize these two objects in a timeless and physically indifferent space and then to consider a concrete physical interaction between them taking place *in this static and passive medium*. It is unnecessary to duplicate these concrete dynamic links by static geometrical connections which are, so to speak, stretched underneath the concrete physical events and actions. The assertion of such timeless connections between physical entities was obviously only another aspect of the separability of space from time which classical physics, until the time

of Einstein, so confidently proclaimed. With absolute space and absolute simultaneity swept away, every ground for such a separation disappears. This means that the only links existing within nature are not of a geometrical, but only of a *chrono-geometrical* type. In one sentence: *concrete becoming does not need any static container.*

This fusion of the underlying geometrical container with its concrete and changing physical content is even more conspicuous in the general theory of relativity; it is clearly meaningless to speak about the gravitational field as being located *in* space when the whole reality of this field is reduced to a relatively stable, but more or less temporary, modification of the non-Euclidian spatio-temporal medium. The introduction of non-Euclidian space with its curvature varying not only from place to place, but even in time,²² and in particular, the idea of an expanding space whose radius of curvature is continuously increasing, illustrates much more graphically, than does the preceding analysis of the special theory of relativity, a striking incorporation of space into the physical becoming.

It is evident that the traditional distinction between space and its concrete and changing physical content contributed greatly to the misinterpretation of the relativistic fusion of space and time. The third reason for this misunderstanding was a hasty and superficial conclusion drawn from the fact of the relativity of simultaneity. A couple of events appearing simultaneous in one frame of reference is no longer simultaneous in other inertial systems. What seems to be even worse, some events appearing in succession in one system may even appear in a reversed order of succession in some other systems. As there is no privileged system which would impart a mark of objectivity to one of these systems, what objective status may time and succession still possess? Does not the theory of relativity thus substantiate the Kantian and idealistic view about a purely phenomenal nature of time? The temptation to draw this conclusion was great, especially for Neo-Kantians.

²² Cf. the truly Heraclitean ring of Reichenbach's characterization of the general gravitational fields in his *Philosophie der Raum-Zeit Lehre*, pp. 302-03.

The main defect of this reasoning is that it starts with a wrong assumption. It is simply not true that the simultaneity and succession of events are *purely and unqualifiedly relative*. Even a cursory inspection of Lorentz's and Minkowski's formulae discloses three cases which are not sufficiently emphasized, if they are mentioned at all, in popular expositions of relativity: the simultaneity and succession of a) isotopic events (i.e., events occurring at the same place);²⁴ b) heterotopic (distant) events which are causally unrelated; and c) heterotopic events which are causally connected.

a) The simultaneity and succession of isotopic events are both topologically *invariant* in respect to *all* possible frames of reference. In other words, the simultaneity and succession of the events occurring at the same place remains a simultaneity and succession for *any conceivable observer*. In Paul Langevin's words, the world-lines, which by definition are constituted by succession of isotopic events, are *irreversible* in all systems of reference. The irreversibility of the world-lines is thus in the full sense of the word *absolute*.²⁵

b) What became fully relative in modern physics is the simultaneity of *distant*, i.e., *heterotopic* events. Such events appear simultaneous in one consentient set, i.e., in such inertial systems which are mutually at rest; in all other systems the same couple of events is *not* simultaneous. In other words, with the exception of consentient sets, different observers will disagree what a "space at a given instant" is; their instantaneous three-dimensional cuts across four-dimensional becoming will *not* coincide. This statement is only equivalent to the afore-mentioned assertion that there is no absolute space which would serve as an objective substratum for the "truly simultaneous" events. Thus the relativity of simultaneity can equally well be called a *relativity of juxtaposition*.

c) Contrary to a wide-spread belief, the succession of distant events is *not* made relative. Only the order of those events which are *causally unrelated*, i.e., those whose distance in space is greater

²⁴ H. Weyl uses the term "equipositional" (*Mind and Nature*, p. 68).

²⁵ Emphasized for the first time by Langevin, op. cit., p. 37.

than their interval in time multiplied by the velocity of the fastest causal action, may appear reversed in suitable frame of reference; the succession of causally connected events, however, remains topologically invariant, i.e., it retains its character of succession for all possible observers. The misunderstanding of this point was due to the confusion of *metrical* invariance with *topological* invariance. It is true that in relativity, in contradistinction with classical physics, the *length* of the temporal interval even between two causally related events depends on the choice of the system of reference; it must be emphasized, however, that it cannot become zero in any system, and *a fortiori* cannot become negative. The transformation of succession into simultaneity or a reversion of temporal order may occur when the corresponding events are *not* causally related. But in no conceivable system can an effect appear before its cause. Such a case, though possible in classical physics, is impossible in relativity theory in virtue of the fact that no causal action can move faster than the electromagnetic or gravitational disturbances.²⁸ Philosophically the most significant result is that *while there is no juxtaposition of events which would be a juxtaposition for all observers, there are certain types of succession which remain so in all frames of reference.* These types of succession are represented by causal series, i.e., by the

²⁸ These consequences of relativity follow immediately from the invariance of Minkowski's "world-interval" which is a mathematical consequence of Lorentz's equations. Its expression is $I = d^2 - c^2(t_2 - t_1)^2$ where $d^2 = (x_2 - x_1)^2 + (y_2 - y_1)^2 + (z_2 - z_1)^2$; their spatial separation is d , while $(t_2 - t_1)$ is their temporal interval, and c is the velocity of the fastest causal action. There are then *three possible cases*: a) $I > 0$; b) $I = 0$; c) $I < 0$. The first case represents that of two causally unrelated events whose spatial separation is greater than their interval in time multiplied by the velocity of the fastest causal action; the world interval must remain positive in all frames of reference and its positive sign is unaffected if the order of events is reversed, i.e., if the time interval changes its sign. The case b) refers to a couple of events located on the surface of the "causal cone"; this is a case of a photon in its two successive positions. No reversion of succession or even its degeneration into simultaneity is possible in any frame of reference. Case c) refers to *causally related events*; as the sign of the "world-interval" must be negative in all reference systems, it is obvious that the time interval can never become zero unless the spatial distance should become imaginary. In other words, the succession of two such events can never degenerate into simultaneity; *a fortiori* it cannot be reversed.

world-lines, including the world-lines of photons. In other words, unlike spatial juxtaposition, the irreversibility of the world-lines has an absolute significance, possessing the genuine and objective reality independent of the conventional choice of the system of reference. *The ontological priority of time over space could have hardly found a more convincing illustration.*

III. THE PROBLEM OF THE CONTEMPORARY WORLD

We may anticipate the following objection: "What then really has become of our intuitive notion of distance and simultaneity? Is it possible to get along without them? Does not a relativist use the term 'distance' when he says that the duration of causal links grows with the distance?" Such criticism is undoubtedly valid, but in a different sense from that which the opponents of relativity suppose. We have already pointed out that physical interactions on the scale of the human organism are practically instantaneous and are thus in this respect indistinguishable from the timeless network of purely geometrical relations which constitute classical space. But for the realm of greater velocities and greater "distances" (*sit venia verbo*), the intuitive notion of distance becomes thoroughly inadequate and should be replaced by a more carefully defined concept. Several representatives of the so-called *causal theory of time* (A. A. Robb, R. Carnap, H. Reichenbach, A. Markov) made a bold step when they attempted to reverse the usual procedure and, instead of defining causal action in terms of distance, defined spatial distance in terms of causal action occurring in time. "It is wrong to say that when two bodies are spatially near each other, the physical interaction ("Wirkungslinien") is of short duration; on the contrary, we have to say that when the physical interaction between two bodies is temporally short, their distance is small."³⁷ Carnap's attempt at deriving the topological properties of space from those of time was

³⁷ R. Carnap, op. cit., p. 334: "Nicht: wenn zwei Körper einander räumlich nahe sind, so ist die Folge, dass sie durch zeitlich kurze Wirkungslinien verknüpft werden, sondern: räumliche Nahe bedeutet nichts anderes als zeitlich kurze Wirkungsfähigkeit."

repeated in a more systematic manner by Hans Reichenbach in his *Philosophie der Raum-Zeit Lehre* in 1928, while A. Markov a few years later went one step further and tried to derive the metrical properties of the universe from the fundamental relations of succession.²² More recently the causal interpretation of distance was given by E. T. Whittaker: "When the astronomer asserts that the distance of the Andromeda nebula is a million light-years, he is stating a relation between the world-point occupied by ourselves at the present instant and the world-point occupied by Andromeda nebula at the instant when the light left it which arrives here now."²³ Thus what we call a "distance" is no longer the relation between "here-now" and "there-now," but that between "here-now" and "there-then." This is what Whitehead had in mind when he wrote in 1919 that "spatial relations must stretch across time."

The quotation from Whittaker will bring into focus another objection, which is really another form of the previous one: "But where is the Andromeda nebula *now*?" It would not be fair to answer this question by saying that the nebula perhaps does not exist any longer; or, that if it exists, it has been profoundly modified by a million years of evolution. For the question will emerge obtrusively again in the following form: "No matter what the present causal successor of the Andromeda nebula is, whether it is a condensed star or a cosmical dust, it is certain that its present existence does not depend on its future causal-impact on the earthly observer. Although its present light will affect future earthly observers—provided that there will be any left—a million years from now, it must be leaving the nebula, or whatever has become of it, *now*." The valid part of this statement is its insistence on the *causal independence* of physical entities which according to conventional expression are separated in space; the wrong part is precisely the word "*now*." For this relation of independence is not symbolized by an instantaneous geometrical connection spreading

²² A. Markov, "Über die Ableitbarkeit der Weltmetrik aus der 'Früher als' Beziehung," *Physikalische Zeitschrift der Sowjetunion*, I, 3 (1932), p. 397.

²³ *History of the Theories of Aether and Electricity* (London, 1953), II, p. 186.

through the whole universe. There are, as Eddington used to say, no "world-wide instants"; or, in the words of A. A. Robb, "an instant cannot be in two places at once."³⁰ *My present instant is here and nowhere else.* This does not mean that the existence of "there," or, as Eddington called it, "elsewhere," is denied; what is denied is only its instantaneous character and its alleged association with "here-now." "Now" is inseparable from "here"; the original connotation of the word "present" is both spatial as well as temporal. The Latin *prae-esse* means to be *nearby*, in the immediate neighbourhood, i.e., *here*. "There" in respect to "here" is always *in the past* or (potentially) *in the future*. My present "now-here" is causally affected by the "past-there" and will causally affect the "future-there."

But then what lies between this "past-there" and the "future-there"? The answer of the relativity theory is clear: *all events causally independent of my "here-now" and of which my "here-now" is independent.* There is, as Paul Weiss has said, "the contemporary world";³¹ but "contemporary" does not mean "co-instantaneous." The contemporary world is the *whole stretch of time*, a series of events; this is the meaning of Whitehead's "co-presence" or of Eddington's "elsewhere."³² On our earthly scale

³⁰ A. Eddington, *The Nature of the Physical World*, pp. 42-47; A. A. Robb, *Geometry of Time and Space* (Cambridge, 1936), p. 15.

³¹ See his article with this title in this Review, VI (1952), pp. 526-39. A more appropriate adjective than "contemporary" could hardly have been found because it suggests the co-presence of *temporal intervals* rather than the co-presence of *instants*. Yet, some passages of Weiss's article definitely indicate that the connotation "co-instantaneous" is *not* excluded. See note 44.

³² A. Eddington, *Space, Time and Gravitation*, p. 50; A. N. Whitehead, *The Principle of Relativity with Applications to Physical Science* (Cambridge, 1932), p. 30: "The aggregate of events-particles lying on moments through P will be called the region co-present with P. The remainder of the four-dimensional continuum is divided by the co-present region into two regions, one being P's past and the other being P's future." Unfortunately, Whitehead's terminology is not always consistent; *The Concept of Nature* (p. 177) defines co-presence in a considerably different way: "I call two event-particles which on some or other system of measurement are in the same instantaneous space 'co-present' event-particles." This is an altogether different definition. In the example which Whitehead gives (pp. 177-78), two events, the birth of Queen Victoria and the present "now" can be "co-present" for some very distant observer *only in the first*

this interval containing all independent events is so small that it is practically instantaneous; hence our spontaneous belief in "there-now." But what is practically valid on the planetary scale ceases to be even approximately true for greater spatio-temporal distances. *There is no "there-now"; there is only the relation of independence between "now-here" and the whole series of successive "nows" elsewhere.* Which one of these successive "nows" is declared to be simultaneous with my "here-now" depends on the frame of reference, i.e., ultimately, on convention. Similarly, a retrospective dating of the emission of light from Andromeda nebula which is reaching our eyes now will come out differently for different observers. And, as there is no privileged system of reference, there is no ground for preferring one of these results over others. Thus the simultaneity of distant events cannot be established, not even retrospectively.²² This can have only one meaning: such simultaneity *does not exist*.

There are only two fundamental relations in the universe: that of successive causal connection and that of contemporary causal independence. The first relation remains absolute even in the relativity theory, being a topological invariant in all frames of reference. What has been made relative was a purely spurious succession of causally independent events, in other words a relation which is not only never observed, but by definition is never observable, as no causal action can serve as a vehicle of perception which would disclose events "elsewhere" to the observer. This is the reason why modern physics introduces the second relation, that of contemporary independence. This relation was certainly absent from the classical scheme. The classical world was rigidly coherent along its temporal dimension; the iron link of necessity joined, and we may even say, *fused* its successive phases to such an extent that even their successivity was in question. But the classical world cohered no less rigidly along its *transversal*, i.e.,

sense, never in the sense of the second definition, because the events in question are causally connected. Nevertheless, Whitehead uses it as an illustration of the second definition.

²² Contrary to what Edouard Le Roy, a French disciple of Bergson, says in his article, "Les Paradoxes de Relativité sur le temps," *Revue philosophique*, 123 (1937), p. 40.

spatial dimensions; the movement of time, as long as it was reluctantly admitted, had, so to speak, one single wave-front on which all simultaneous events were carried ahead to the future. Whether moving or not, the classical world was one huge whole, a true "block-universe" as William James used to say. The universe of modern physics is of a different type. There are definite indications that the cohesion of its successive phases is of a different kind from the rigid necessitarian bond which in its ultimate consequences would make true succession spurious and impossible. The theory of relativity in underlining the irreversible character of causal connection only strengthened the ontological status of time and its creative character. For irreversibility and creativity are inseparable.²⁴ The quantum theory seems to bring into focus the reality of novelty, i.e., creativity, in rudimentary form at least, even on the microphysical level. The universe no longer seems to be a single unbending fact rigidly cohering along its temporal dimension. But the theory of relativity also loosened the connexion of the universe along its transversal, i.e., spatial dimensions when it replaced the concept of simultaneity by that of causal independence. It is possible that both types of loosening are not unrelated, both being aspects of the re-introduction of contingency into the physical world. William James saw as early as 1884 the connection between unity in space and necessity in time and, on the other hand, between plurality and contingency.²⁵ White-

²⁴ I have dealt with this question extensively in my paper *The Doctrine of Necessity Re-Examined*, this Review, V (1951), pp. 11-44.

²⁵ W. James, "The Dilemma of Determinism," *The Will to Believe and Other Essays in Popular Philosophy* (New York, 1903), pp. 150-51: "What does determinism profess? It professes that those parts of the universe already laid down absolutely appoint and decree what the other parts shall be. The future has no ambiguous possibilities hidden in its womb: the part we call present is compatible with only one totality. Any other future complement than the one fixed from eternity is impossible. The whole is in each and every part, and welds it with the rest into an absolute unity, an iron block, in which there can be no equivocation or shadow of turning. . . . Indeterminism, on the contrary, says that the parts have a certain amount of loose play on one another, so that laying down of one of them does not necessarily determine what the others shall be. It admits that possibilities may be in excess of actualities, and that things not yet revealed to our knowledge may really in themselves be ambiguous . . . Indeterminism thus denies the world to be one unbending unit of fact. It says there

head, too, linked "contemporary independence" to the contingency-character of the world.²⁶ But a detailed discussion of this problem is beyond the scope of this paper. For our purpose it is sufficient to state that along its temporal dimension as well as along its spatial dimensions the world coheres in a much less rigid way than was imagined by classical physics.²⁷

Admitting only two fundamental relations in the universe, causal succession and contemporary independence, we can hardly accept without reservations Carnap's claim that the topological properties of space are entirely derivable from those of time.

is a *certain ultimate pluralism in it*; and, so saying, it corroborates our ordinary unsophisticated view of things"; p. 181, note: "To say that time is an illusory appearance is only a roundabout way of saying *there is no real plurality*, and that the frame of things is an *absolute unit*. *Admit plurality, and time may be its form*" (italics mine).

²⁶ A. N. Whitehead, *Adventures of Ideas* (New York, 1933), p. 251: "It is the definition of contemporary events that they happen in causal independence of each other. Thus two contemporary occasion are such that neither belongs to the past of the other. The two occasions are not in any direct relation of efficient causation. The vast causal independence of contemporary occasions is the *preservative of the elbow-room within the Universe*. It provides each actuality with a welcome environment for irresponsibility . . . Our claim for freedom is rooted in our relationship to our contemporary environment. Nature does provide a field for independent activities. The understanding of the Universe requires that we conceive in their proper relations to each other the various rôles, of efficient causation, of teleological self-creation, and of *contemporary independence*" (italics mine).

²⁷ It may sound strange that classical space which was by its nature *empty*, i.e., *penetrable*, could possess the attribute of *rigidity* which is usually associated with *impenetrability* of matter; or that the void which *separates* physical bodies could be characterized as a *connecting agency*. But let us not forget that the classical Euclidian void was a physical *container* in which individual physical bodies *co-exist* together and that this container, as Newton explicitly stressed, is in its own nature timeless and unchangeable. Thus it may be said with equal accuracy that spatial distances *separate* as well as *connect* physical bodies. Each distance remains always the same, no matter whether it joins (or separates) two particles or two unoccupied positions. What is changing is the occupancy of positions; positions themselves remain unchangeable and static. The most precise formulation of classical thought may be found in B. Russell, *Principles of Mathematics*, Ch. LIII. The logical connection between the simultaneity (i.e., spatial juxtaposition) and the rigidity was clearly shown by P. Langevin "L'Evolution de l'Espace et du Temps," *Revue de Métaphysique et de Morale*, XIX (1911), p. 460.

Carnap was right in what he denied; there is no objective static space separable from time. But by no logical effort can the character of *spatiality* or *extension* be derived from time defined as a one-dimensional series of instants. There was a hidden circle in Carnap's reasoning when he assumed the *multiplicity* of the world-lines instead of one single world-line; but what else is such a multiplicity than a rudiment of spatiality? Carnap virtually admitted it when he postulated two basic relations: that of succession and that of *coincidence*, the latter being defined as an intersection of *two* world-lines.²⁸ It is certain that the multiplicity of the world-lines is different from multiplicity in time, i.e., sheer succession. It is a multiplicity of *independent co-existents* or of *contemporary durations*. Thus it is incorrect, or at least misleading, to claim that space has been simply and unqualifiedly absorbed into time. This would be true only if by "time" we meant not the classical concept of a one-dimensional continuum of instants (unsatisfactory also in other respects, especially in the light of the quantum theory and wave-mechanics), but Bergson's notion of *extensive becoming*,²⁹ which is more or less synonymous with Whitehead's *creative advance of nature*. Such extensive becoming, in contradistinction with the mathematical purely linear time, has a certain transversal *extent* or *width*; it admits the relations of *co-presence* (Whitehead) or *simultaneity of fluxes* (Bergson). But what classical physics naturally overlooked was that from the *simultaneity of fluxes* it is impossible to pass over to the *simultaneity of instants*; for, as Bergson and later Whitehead repeatedly emphasized, time is not made of durationless instants.

Maintenant, de la simultanéité de deux flux nous ne passerions jamais à celle de deux instants si nous restions dans la durée pure, car toute durée est épaisse: le temps réel n'a pas d'instants. Mais nous formons naturellement l'idée d'instant, et aussi celle d'instants simultanés, dès que nous avons pris l'habitude de convertir le temps en espace. Car si une durée n'a pas d'instants, une ligne se termine par des points. Et, du moment qu'à une durée nous faisons correspondre une ligne, à des portions de la ligne devront correspondre des "portions de la

²⁸ Op. cit., p. 336.

²⁹ *Creative Evolution*, p. 345. The English "extensivity of becoming" is not an entirely satisfactory translation of "le devenir extensif" (p. 317 in the original French edition).

durée," et à une extrémité de la ligne une "extrémité de durée": tel sera l'instant,—quelque chose qui n'existe pas actuellement, mais virtuellement. *L'instant est ce qui terminerait une durée si elle s'arrêtait. Mais elle ne s'arrête pas.* (*Durée et Simultanéité*, pp. 68-69; italics mine)

Similarly, instantaneous three-dimensional cross-sections in extensive cosmic becoming are such virtual stops; they are only illusory artificial products of the "cinematographical mechanism of thought" without having any genuine reality in the ever-growing world.

On the materialistic theory the instantaneous present is the only field for the creative activity of nature. The past is gone and the future not yet. Thus (on this theory) the immediacy of perception is of an instantaneous present, and this unique present is the outcome of the past and the promise of the future. But we deny this immediately given instantaneous present. There is no such thing to be in nature. As an ultimate fact it is a non-entity. What is immediate for sense-awareness is a duration (*The Concept of Nature*, p. 72).

A few years later, speaking of the relativity of simultaneity, Whitehead says: "This was a heavy blow at the classical scientific materialism, which presupposes a definite present instant at which all matter is simultaneously real. In the modern theory there is no such unique present instant."⁴⁴

We are now in a position to evaluate fully the meaning of the fusion of space and time, or what is the same thing, the transformation of the concept of distance. It is not enough, or at least it is not specific enough, to say that the concept of spatial distance was replaced by that of spatio-temporal distance. What we used to call "spatial distance" is measured, as Carnap and Reichenbach correctly observed, by the duration of the corresponding causal links. If the sun is closer to us than Neptune, it is because the former is only eight light-minutes away while the latter is four light-hours. But when I vividly remember what I was doing eight minutes or four hours ago, am I not also causally influenced by a "distant event"? Why in this latter case am I inclined to say that the distance in question is purely temporal, i.e., that no spatial distance is involved? Obviously the temporal

⁴⁴ *Science and the Modern World* (New York, 1926), p. 172.

span of a causal link is *not* sufficient to characterize what classical physics called "distance in space." There is a second feature involved which, together with the first, is sufficient to differentiate between spatio-temporal distance and bare temporal distance viz., the interval of causal independence. It is precisely the length of this interval which measures the spatio-temporal distance and at the same time measures the *degree of indetermination* concerning the simultaneity of distant events. This interval which measures the extent of "co-presence" or "elsewhere" is sixteen minutes for the Sun, eight hours for Neptune, one century for Polaris and so on; it is always *double* the duration of corresponding causal links. It is evident that for the events "occurring at the same place," or relativistically speaking, for the events of the same world-line, the interval of causal independence is zero, as each such event is naturally simultaneous with itself; this is nothing but a truistic exemplification of the law of identity. As in other instances, the view of classical physics is true in the first approximation; when the duration of causal links is small, the interval of causal independence shrinks practically to a single durationless instant and we can speak of timeless (instantaneous) distances without committing a serious mistake. But outside of this limited area of approximate validity, it is legitimate to speak only of *spatio-temporal*, never of barely *spatial* distances.⁴¹ Similarly, on the macroscopic

⁴¹ It is interesting that by substituting the infinite value for the velocity of light ($c=\infty$) in Lorentz's equations, Lorentz's transformation passes over into the classical transformation of Galilei. This is more than a simple mathematical coincidence. The infinite velocity of light would mean an instantaneous causal action, which in its turn would imply the existence of absolute space and absolute simultaneity. More specifically: with $c=\infty$, there would be no room left for Eddington's "elsewhere" or Whitehead's "co-presence" as the vertex angles of both causal cones would be equal to 2π (or to 180° degrees in plane-cross-section); the surfaces of both causal cones would degenerate into one single flat sheet separating unambiguously the absolute past from the absolute future across the whole universe. This separating sheet would symbolize the instantaneous space containing the totality of simultaneous events. It is thus correct to say with A. d'Abro (*Bergson ou Einstein* [Paris, 1927], pp. 304-05) that the events simultaneous in the classical sense would be located on the world-line of a point *moving with infinite or instantaneous velocity*. This would be the classical world of Descartes and Newton *rigidly coherent along its transversal cross-section, the world in which barely spatial distances would be possible*.

level the concept of classical causality, the principle of the mathematical continuity of changes, and the validity of the Euclidian geometry remain practically unchallenged; the corresponding deviations are too small to become important. But this does not make the change in the total picture of the universe less revolutionary. The fact that there are purely temporal and spatio-temporal relations in the world, while purely spatial timeless relations do not exist, shows only another aspect of the ontological priority of time over space. For the relations of causal independence, whether it is legitimate or not to call them relations, are thoroughly different from those of classical juxtaposition of simultaneously existing points. The causal independence in relativity does not mean a static separation of no less static entities, a separation which may equally well be called a rigid connection in virtue of the immutable character of the separating void; it means the co-existence—or rather *co-becoming* or *co-fluidity*—of the world-lines. It is precisely this multiplicity of the individual world-lines, interacting in time, but never cohering in a timeless instantaneous way, which constitutes the dynamic basis of *space*.

In a certain sense modern physics returns to Leibniz's theory of the universe as a community of interacting monads. Leibniz's statement, "*Les substances simples sont séparées les unes des autres par des actions*"⁴² has a truly relativistic ring. The distances, instead of being inert gaps yawning between individual entities, are their *actions* which, contrary to Leibniz's belief, are *not* instantaneous. Each monad mirrors the whole universe and is itself mirrored by the whole universe, but this mirroring *takes time*. Precisely because their interaction is not timeless, there is room for the causal independence of contemporary occasions in the world. The monads mirroring the world are comparable to various spatio-temporal perspectives or frames of reference; the impenetrability of monads is only a clumsy way of saying that the universe is representable only in one spatio-temporal perspective, never in two or more at the same time. This is only a physical expression of the law of contradiction: it is impossible to be in two frames of reference at the same time, as it is impos-

⁴² *Principes de la Nature et de la Grâce, Philosophische Schriften*, ed. by E. J. Gerhardy (Berlin, 1875-90), VI, p. 598.

sible to move in respect to oneself; hence the absurdity of "there-now." Like Leibniz's monads, various spatio-temporal perspectives mirror the same underlying reality which, although it is the substratum of all perspectives, is itself without perspective; or, in Leibniz's language, God is "the monad without its point of view." But what in the theory of relativity corresponds to this basic reality underlying all frames of reference? We have already stated the reasons why it cannot be a timeless whole. Everything indicates that it is of dynamic nature. It is this reality which Whitehead had in mind when he spoke about the "creative advance of nature" or which Bergson referred to as "this unique Time inherent in each system" ("ce Temps unique intérieur à chaque système").⁴⁴ This concept is not only compatible with the plurality of alternative temporal series, but is their necessary correlate, without which the complementarity of spatio-temporal perspectives would remain utterly unaccountable.⁴⁵ This comple-

⁴⁴ *Durée et Simultanéité*, p. 99. The error of Bergson was that he was inclined to confuse this universal time with the classical time of Newton—this in spite of his previous criticism of quantitative homogeneous time. Cf. my article "La théorie bergsonienne de la matière et la physique contemporaine," *Revue Philosophique*, CXLIII (1953), pp. 41-46.

⁴⁵ Paul Weiss, *Reality* (Princeton, 1938), p. 230: "To deny that there is a universal time is to break up the world into a multiplicity of irrelevant units . . . We must acknowledge that time is universal to account for the temporal co-presence of intensive beings and for the fact that the entities of a co-present world move into the future together, despite the diversity of their rates of change." I think that this concise statement is far more convincing than Weiss's lengthy argumentation in his article "Contemporary World" in which the author seems to advocate a return to the classical concept of the instantaneous cosmical "Now." This is at least implied in his claim (pp. 525-27) that certain relations do not depend on the establishment of the causal links between the corresponding terms. As an example he gives the appearance of some new star somewhere in the universe; according to him, the quantitative ratio between the radius of this new body and the radius of the earth is prior to, and independent of, the causal interaction between both bodies. In other words, the Nova is either larger or smaller, or possible of equal size as the Earth; and this is true even before we have a chance to see it. The argument seems to be plausible enough, but its deceptive evidence rests on certain presuppositions which are not valid any longer. As long as we postulate the Euclidian space (or any space of *constant* curvature), Russell's axiom of free mobility holds. According to this axiom, the bodies in such space are rigid and their shapes and sizes do not vary with their displacement; consequently, it is meaningful to speak about their quantitative relations even *prior* to their

mentarity is comparable to Leibniz's harmony, although it is not of a static, "pre-established" type; its dynamic nature is more adequately expressed by Whitehead's term "unison of becom-

actual contact, whether mechanical or optical, by which the process of quantitative comparison is effected, for the relations between their sizes remain the same no matter whether they are brought together (i.e., *measured*) or not. But all the available evidence points to the conclusion not only that the real space is Euclidian within relatively narrow limits, but also that the curvature of space varies from place to place and even is not constant through time. Under such conditions the axiom of free mobility (contrary to the dogmatic prophecy of Russell) cannot be considered valid any longer and thus the idea of quantitative geometrical relations independent of the process of measurement loses its meaning. This has been pointed out already by A. Grünbaum (this journal, v. VII, pp. 116-17). Weiss in his answer to Grünbaum retorts that as "being" and "being known" should not be confused, we have also to distinguish between "magnitude" and "measured size." No relativist, however, will deny the existence of the *Nova prior* to its optical impact on the earthly observer; the distinction between "being" and "being known" is fully preserved as it follows logically from the principle of finite velocity of all causal actions. However, it is difficult to see any difference between "magnitude" and "measured size" as both concepts are synonymous; every magnitude implies a reference to another magnitude, usually a standard unit; to speak about "magnitude *an sich*" means to isolate the term from the context which gives it its meaning! Originally Weiss seemed to be aware of the intrinsic relatedness of the concept of magnitude when he insisted that the relations between two bodies (like "greater than", "smaller than"), exist prior to any act of measurement. But in this rendering Weiss's thesis would amount to the assertion that two terms are related before becoming related!

The second argument of Weiss for the existence of the instantaneous relations is the alleged invalidity of the third Newton's law of action and reaction in the world where only time-consuming causal relations exist. A similar conclusion was reached by H. Poincaré when he discussed the recently discovered pressure of radiation. When the electromagnetic radiation is being emitted, its source recoils, but, apparently, there is no compensation for it, because "what has been sent out is energy and energy has no mass; it has no counterpart." (*Foundations of Science*, p. 502; also pp. 146 and 308-09.) But precisely the last statement is not held true any longer; energy, including light, has its inertial and gravitational *mass* and the law of conservation of momentum, of which the third Newton's law is only a special case, holds. It is true that the law has been saved only by the generalization of the concept of mass, i.e., its fusion with the concept of energy; but this precisely constitutes the main feature of the relativistic dynamics. It is true that it does not hold for spatially separated bodies on account of the finite velocity of causal actions. When Weiss tries to save its validity for spatially separated bodies by saying that "there are no bodies in absolute contact," he is being misled, I believe,

ing." "But it is important not to confuse this unison of becoming with any particular time-series, not even with that allegedly privileged series of world-wide instants. This would imply a return to all the fallacies of classical physics, in particular to the fictitious concept of the gigantic cosmic "now." This concept, as we have seen, is only an illegitimate extrapolation of my local "here-now" into "there-now" and eventually into "everywhere-now." But such "everywhere-now" does not exist. The whole notion of "there-now," when closely analyzed, is contradictory; it consists in imagining one observer present in many places at once, or in calling *two events one event*; it is a preposterous attempt to crowd different perspectives into a single one. It is then only natural that Whitehead should urge that creative passage is not properly serial at all, but transcends physical nature. It is a dynamical ground of all spatio-temporal perspectives and does not coincide with any of them, not even with that allegedly privileged temporal series called absolute Newtonian time.

The difficulty as to discordant time-systems is partly solved by distinguishing between what I call the creative advance of nature, which is not properly serial at all, and any one time series. We habitually muddle together this creative advance, which we experience and know as the perpetual transition of nature into novelty, with the single time-series which we naturally employ for measurement. The

by a rather crude and almost Democritian connotation of the word "contact." The contact in question is not a contact of immediately adjacent solid particles, but a contiguity between the ultimate elements of matter and their surrounding energetic field. (Even these expressions are far from being adequate and are loaded by misleading associations!) For such kind of contact action is not only equal to reaction, but also *simultaneous* with it as they both are only two aspects of one and the same process.

Thus, to use Weiss's own terms, neither "coordinate" nor "effective" contemporaneity necessitates the admission of "static constitutive relations" in the world. Only dynamic or restless simultaneity which Weiss advocates in the remaining part of the paper is compatible with the recent physical experience and also, I think, with Weiss's own views. Individual things (or rather processes) *do* belong to the same world; but this world is a dynamical whole which in its perpetual surge toward the future cannot be stopped,—not even for an instant. Every instantaneous cross-section in its everlasting becoming is a *conceptual artifact* and only within such artifact can the alleged static relations be found. They have no locus in the nature of things.

* *Process and Reality* (New York, 1929), pp. 189-92.

various time-series each measure some aspect of the creative advance, and the whole bundle of them express all the properties of this advance which are measurable (*The Concept of Nature*, p. 178).

But by its non-metrical properties the passage extends beyond physical nature.⁴⁶ A similar view was expressed by Bergson years before Whitehead when he claimed that the universal cosmic becoming is in its innermost essence something qualitative comparable to the stream of consciousness which also defies all attempts to order it serially in the strict arithmetical sense.⁴⁷

In spite of their highly abstract nature the classical ideas of space and time are natural outgrowths of common sense; their structure is basically that of spontaneous sensory perception devoid of changing and heterogeneous content. This is the core of the Kantian view according to which the classical space and time are by their own nature intuitive, not conceptual. More specifically, this intuitive character is of an *optical* nature and this accounts for the fact that it is so extremely difficult to overcome the powerful habits of spatialization and visualization. But the situation will appear less hopeless if we realize that thought and imagination are different things and that the obstinacy of mental habits should not be confused with normative claims of thought. One method of checking our automatic tendencies toward vizualisation and spatialization is to analyse the non-visual and non-sensory modes of thought. The significance of this analysis is evident as soon as it is realized that what remained obscure and paradoxical as long as the universe was pictured in optical and mechanical terms becomes considerably clearer and more transparent when auditory models, for instance, are used. Let us consider the musical experience of polyphony which is suggested by Whitehead's metaphor "unison of becoming"; its analysis will yield some interesting results. A polyphony is by its own nature unfolding and incomplete; so is cosmic becoming. But a polyphony,

⁴⁶ *The Concept of Nature*, pp. 66, 69.

⁴⁷ *Creative Evolution*, p. 13 (concerning the similarity of the duration of the cosmic Whole and that of consciousness). Cf. Ch. II of *Essai sur les Données Immédiates de la Conscience* (Paris, 1889), concerning the difference between the arithmetical multiplicity of distinct units and the "qualitative multiplicity" of succession.

besides containing the relations of succession, also contains relations which are, so to speak, "perpendicular" to its own flux and are thus not without analogy to spatial relations. Do not its component harmonizing melodies move, so to speak, "alongside" each other, i.e., preserve their musical individualities in spite of their "transversal" overlapping? Is this not a concrete exemplification of what the "simultaneity of fluxes" or the "unison of becoming" may be on a more abstract level? The simultaneity of fluxes, however, can never become a simultaneity of juxtaposed instants. "In a similar way," says Whitehead, "a note of music is nothing at an instant, but it also requires its whole period to manifest itself."⁴⁴ In other words, the musical structures, in virtue of their essentially temporal nature, cannot be subdivided *in infinitum* without being destroyed; they are, as Ehrenfest recognized a long time ago, "temporale Gestalten" whose duration is their "existential minimum." Here, as in cosmic becoming, instantaneous cross-sections are mere conceptual artifacts, ideal limits, conceivable in our imagination, but never realized by nature itself. They would be realized if the causal interaction were to become instantaneous, or—what is the same thing—if time were to cease to flow. But this never happens except in the imagination of some philosophers.

The spatial picture of time as a one-dimensional continuum of points is inaccurate in a double sense: not only because it obscures the essential incompleteness of temporal process, but because it wrongly suggests that the process, like a geometrical line, is "without width," i.e., without transversal extension. But such time is only an abstraction; becoming is always extensive and it is always incomplete. "*Extension is derivative from process, and is required by it.*"⁴⁵ Relativistic space is neither the timeless space of Newton nor the Cartesian or Russellian succession of perishing instantaneous spaces, each of which is miraculously re-created at each moment. It is a reality which not only is not foreign to duration, but is inseparable from it; in a word, it is a *time-space* rather than a *space-time*.⁴⁶

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⁴⁴ *Science and the Modern World*, p. 54.

⁴⁵ A. H. Whitehead, *An Enquiry*, 2nd ed. (1924), p. 202.

⁴⁶ The first part of this paper was read at the meeting of the Metaphysical Society of America at Chicago, March 26, 1955.

THE REALITY OF APPEARANCES

C. W. INGRAM-PEARSON

The question of what is or is not real, as well as the question of that in which the reality of anything consists, cannot be approached on the basis of any one criterion of reality. Any criterion, no matter what, has only one way to deal with what does not come from itself, and that is to reduce it to nothing. On the other hand it is obvious that no real element can submit to any form of exclusion. In reality, if a thing is good enough to be excluded on the basis of some criterion then it was always necessary that it be included. "Reality" is in fact the term of the most comprehensive generality, and to consider it in any other way (i.e., by the attempt to force it to submit to a criterion) will abolish the concept of reality itself.

The criterion of reality is variable, and is as non-exclusive as reality itself. So that if freedom from contradiction, for example, be used as such a criterion, it has only to be asked if real muddles, or real chaos, or real contradictions are not possible?

Now any reference to "appearance" is but another attempt to set up a criterion of reality. The criterion in this case is this: a resolution is made, with a certain purpose in view, to call real whatever is constant in an established way to observation or perception. So that to call the rest "appearance" or "unreal" is then nothing but a comparison made for this same purpose. The fact is, however, that what is thus called "appearance" cannot really be looked upon as unreal in any sense. For in themselves these appearances, like everything that is not nothing, have precisely that reality that pertains to them. They are certainly not real in the same way as the constants with which they are compared, but the point is that they cannot be said to be unreal; this because they are not nothing. A possible mistake in language here will give rise to a wrong emphasis about the problem in reality. For example, to say that appearances are unreal is the

same as to say that a counterfeit coin is unreal. In fact, however, we never think that a counterfeit coin is unreal, but only that it is not genuine. The distinction meant by the word "appearance" is a distinction only *within* the real. What is true of appearances in reality, as indeed of the counterfeit coin, is that like all else they have that reality that pertains to them. In other words, appearances are real: they are real appearances.

In the same way the tendency to regard imaginative patterns as unreal is dangerous to clear thought about the problem in reality. Imaginative patterns exist as modifications of some real mind. The appearance in the mind of a fish's tail joined to a woman's torso has there a mental reality, and this is equally real in its own sphere as a real mermaid would be if we came upon one sitting on a rock. It is a reality, but of a different order. The present fact, since we have not come across any mermaid in the material order, is that, as far as we know, a mermaid does not exist anywhere, not even in a mind. What does exist somewhere in a mind is the idea of a mermaid and that idea has in that way all the reality it can ever have. To say that a mermaid exists in the mind is to that extent an inaccurate reference. So, too, to speak of a thing as having logical existence in the sense that it inhabits some other than the real world (i.e., that it is logical, not real) is to preclude the possibility of the existence of a logical entity at all, for the only unreal is nothing. To say that dreams are unreal means that there are no dreams. But dreams are real; they are real dreams. Fictions are real; they are real fictions. And appearances are real; they are real appearances. When it is properly analysed, then, reality always refers to what exists in some way.

If this much is allowed, it may be seen to be nothing but a deception of words which says that appearances are transmuted in the depths of reality. It may be asked to what more certain reality the reality of appearances is to be opposed. It is like trying to compare the reality of ant with the reality of elephant, the truth being that both are equally real in as much as they are posited outside of nothingness. Different things have different forms and different tests as to their reality, but no thing can be said to be unreal, not even an appearance.

From this necessary postulation of the reality of appearances certain important points follow. First, this thesis makes a rigid distinction between the question of reality and the question of truth. Reality is the sum of all the facts no matter what, and as such it contains equally in its manifold probable and improbable facts, dreams and material situations, truths and untruths. A fact as such is not a truth, and this is true even when the question of truth is involved in another connection—i.e., when the particular fact is an untrue idea. In other words a truth or falsity is always a fact, but not in the same sense as it is a truth or falsity. Inasmuch as the problem of truth is a problem of description, not of existence, it is apart from the problem in reality. On the plane of reality the object of reference of an idea always has that kind of reality implied in its meaning, and if the objects of reference even of fancies and errors do not exist in the real world then they do not exist at all.

Secondly, that appearances are real means that neither the idealist nor the materialist criterion is sufficient for an adequate account of reality. Because of the inapplicability of any one criterion to the whole range of reality both these accounts are wrong in what they deny. On the other hand they are right in what they affirm. What each makes clear is that mind may be described *in terms of* matter, or that matter may be described *in terms of* mind. But before either of these attempts at description is possible, or can make any sense, both modes of being have to *be there*, or in other words be *just as real*. The attempt to describe one mode of being in terms of another could not find a starting point unless both were real, because no problem could be framed. Further it is obviously unjust to claim that either of the modes of being with which empirical evidence confronts us in this world is the stuff of Ultimate Reality, or Reality Itself, when the very meaning of the claim depends upon the equal reality of the other mode. The whole range of reality is no more in one mode of being (this becoming a criterion) than in any particular form of one mode. A material object cannot exist as a mental object nor vice versa. The attempt to say what one thing is in terms of other things does not say what the thing is in itself. To explain an object in terms of anything else at all, whether in

terms of concepts derived from its own realm of being, or from another realm is, in fact, to leave the object out. The only meaningful attempt at reality is the attempt to abstract the transcendental that permeates everything, and which makes anything whatever to be a reality—i.e., existence. For anything in any realm of being is but a further illustration of the ways in which it is possible to exist. The attempt at reality is the attempt to fix the meaning of existence. It consists in the steps whereby experience, instead of evolving techniques for description, turns inward towards the realisation of its own reality.

Thus, once the distinction between appearance and reality is made as part of the attempt at reality, the problem of the meaning of existence or reality is confused with the problem of description or systematisation. This ideal overrating of the part of construction in knowledge pushes aside to "the confines of non-being" the very facts (appearances and dreams amongst them) that give to reality the flavour that it has. The existential distinction that makes reality what it is, is not grasped, because the reality of mental equivalents of objects tends to be regarded as part of the objects themselves. Thus regarded, instead of being considered as special kinds of existents, the mental equivalents come to be referred to as grades of the reality of the object. From this standpoint one and the same thing is said to have several different forms of existence. It is suggested here that when analysed this can have no other meaning than that material terms are being applied to mental processes and vice versa; or, in other words, that with regard to the problem in reality it represents a confusion in terminology. Unless it can be shown what that indefinite "something" is that is capable of either mental or material existence, or indeed that this "something" is anything at all in any intelligible sense until it exists in one of these ways, the whole idea of grades of reality must be judged to overlook the vital fact in reality, that its different forms are not liable to transition from one to the other. Appearances, even in their momentary actuality, are reality, so that ideal constructions, even while being themselves real ideal constructions, are dependent on a prior reality, and in fact broach the question not of the reality of the real, but of its organisation and systematisation. The only

construction that deals in reality is the construction that is creation, and the only attempt at the meaning of reality is at the meaning of the existence of what is thus made to be reality. Reality is certainly not the totality of "what is" grasped as One by the doubtful process of transcending the very differences that make "what is" the reality that it is.

The third effect of the establishment of the reality of appearances is the broad outcome of the foregoing: it is that there is a dimension of the world that does not lend itself at all to an indefinite progression of knowledge such as has taken place in the physical sciences. The fact that things that are equally real are so different in what else they may mean to us (e.g., an ant and an elephant, a tree and the idea of a tree) is the indication that the whole problem of description is other than, and secondary to, the problem in reality. The fact that reality exists as manifold and changing, while it is the necessary basis for one form of knowledge (scientific knowledge), does not itself receive any explanation in that form. The knowledge, in the scientific sense, of what a thing is, is not itself the reason for the thing's triumph over nothingness which is its reality. It was Kant who grasped clearly that the scientific ideal of theoretical knowledge, while it is a genuine apprehension of the structure of existents, can never reveal precisely what the objects are with which it deals. The real things are first *there* before that classification and systematisation and reorganisation which is natural science is possible, so that science seeks not the thing but the scheme to fit it into. Meanwhile it is doubtful if reality itself becomes any more intelligible through this kind of systematisation and description. For example the scientific and descriptive knowledge of "ant" would not be affected if there were one less ant than there is in the world. But that one ant exists, and the reason for this is not in the essence of ant. This particular ant is intelligible only as an illustration that reality tends to occur in profusion and in any way at all. A broken stone picked up at random from the road is hardly intelligible in terms of system, and this is because its reality is not what makes it intelligible in the scientific sense; it is what makes it to be there at all. The necessary condition for scientific knowledge of a thing is that both it and many other

things are realities. Where the object of scientific activity is the translation of reality into a methodical pattern, it must therefore be seen to be consequent knowledge, to which the knowledge of the reality of the real should be prior. The attainment of the secondary purpose without consideration of the prior question might easily lead to an ill-considered exploitation of things themselves, and to the abandonment of the true philosophical object. Systems are a means of discovering further real truth only when truth is first otherwise discovered and brought to face the deductive reasoning. For though existents or reals are the objects of scientific knowledge, that knowledge lies only in the system of which they are a part. And before anything can be part of a system it must first *be or be real*. The secondary methodical knowledge is not the cause of the real world, and it is not the meaning of reality. Thus once the reality of appearances is granted, the problem of reality becomes distinct both from the problem of dualism and from the attempt to introduce order into complexity.

This means that it is at least possible that what, since the time of Kant, has become the method of philosophy in many quarters, that is, the attempt at the general rational account of the world understood as the classification and systematisation of all its parts, has been distinct from the very problem that it has implicitly set itself. For while it is true, as Kant said, that the content of an idea is not affected by the thought of the existence or non-existence of the object of reference of the idea, this is significant only within a certain delimited sphere of knowledge. It is known, and Kant himself knew it, that this knowledge cannot attain the meaning of reality; but this cannot mean the absolute impossibility of attaining the meaning of reality. We know a difference between the *idea of one hundred dollars existing*, and the *existence of one hundred dollars*, and what we thus know is that that difference is all the difference of two realities. It may be that the difference is not effective in terms of essences, but the knowledge of some difference is still a fact, and what that fact makes clear is that a further intelligible problem is posed in the sphere of existence which is the sphere of reality. Thus the

possibility is open for knowledge beyond the knowledge of clear ideas, which are the servants only of the scientific world.

The problems arising around these issues, and based on the perception of the reality of appearances, constitute the attempt to fix a meaning which Kant set aside as meaningless because of an overly limited application of the method of affirmation. Those problems converge into the common issue that the reality of any thing is one with its existence, so that the attempt at reality is in fact the attempt to fix the meaning of existence.

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DESCARTES' PROVISIONAL MORALITY

ROBERT CUMMING

In the third section of his *Discours de la méthode*, Descartes constructs a "morale par provision," which he claims is "tirée de cette méthode."¹ Despite this claim he has entered the history of philosophy as perhaps the only systematic philosopher of the first rank who failed to provide any methodical treatment of moral problems. Historians portray a Descartes who helped lay the metaphysical foundations of modern science by excluding from its scope the practical aims of the human organism.² Descartes so portrayed has become an antagonist almost indispensable to the formulation of contemporary pragmatic and organic philosophies.³ But this portrait which belongs to the history of philosophy bears too close a resemblance to the butt of Descartes' own satire:

Il me semblait que je pourrais rencontrer beaucoup plus de vérité dans les raisonnements que chacun fait touchant les affaires qui lui importent, et dont l'événement le doit punir bientôt après, s'il a mal jugé, que dans ceux que fait un homme de lettres dans son cabinet, touchant des spéculations qui ne produisent aucun effet . . .

¹ R. Descartes, *Oeuvres*, ed. Adam and Tannery (Paris, 1897-1910), VI, p. 1.

² Scholasticism had accorded these practical aims scientific recognition as final causes. For this contrast between scholastic and Cartesian science, see E. A. Burtt, *The Metaphysical Foundations of Modern Physical Science* (New York, 1927), Ch. IV. The immediate occasion of my article is the re-issue of this work in a paper edition (New York: Anchor Books, 1954), which should lend an even wider vogue to the traditional portrait of Descartes.

³ The characteristic problems of Dewey's pragmatism are at one remove from matters of direct practical concern. They are problems of overcoming traditional philosophical inhibitions against dealing methodically with such matters, and Dewey traces these inhibitions to such "gratuitous dualisms" as the distinction between the mental and the material that is introduced into modern philosophy by Descartes' metaphysics and physics. Whitehead similarly exhibits his philosophy's organic approach by rehabilitating interrelations that have been sundered by the modern mentalistic metaphysical tradition and materialistic scientific tradition.

Et j'avais toujours un extrême désir d'apprendre à distinguer le vrai d'avec le faux, pour voir clair en mes actions, et marcher avec assurance en cette vie.*

A generation of intensive Cartesian studies has left undisturbed Lévy-Bruhl's interpretation of "tirée de cette méthode." In his authoritative commentary on the *Discours*, Gilson accepts both the premise and the conclusion of Lévy-Bruhl's interpretation of this expression:

Ainsi que l'a fait observer M. L. Lévy-Bruhl (*Descartes, Cours inédit*) la morale ne doit venir que la dernière dans l'ordre des sciences telles que la méthode cartésienne les aura reconstituées; cette expression ne peut donc signifier: "Une morale construite au moyen des règles de ma méthode," mais simplement: "C'est la méthode qui veut que nous nous donnions une morale provisoire, à cause de la nécessité où elle nous met de douter de tout, bien que les exigences de la vie pratique ne souffrent aucun délai.*

* Op. cit., p. 9.

* E. Gilson, *Discours de la méthode* (Paris, 1939), p. 81. Interpreters of Descartes' method itself have felt left in the lurch when Descartes, having formulated his rules of method in Part II of the *Discours*, does not exhibit their application in Part III, but instead formulates these moral rules. Cf. L. J. Beck in his *The Method of Descartes* (Oxford, 1952), p. 4: "The brief account of the principal rules of method does not lead, however, to a discussion of methodology and the various applications of the method. We are led into a discussion of morals in Part III, formulated, it is true, in a set of three quite sensible maxims, but which cannot be said to have any logical connexion with the rules of method." The usual impression has been that these moral rules, if "quite sensible," are also tediously banal. A. Espinas, in his *Descartes et la morale* (Paris, 1925), II, p. 17, dismisses them as follows: "Elles sont empruntées à la sagesse antique. La première est dérivée de Montaigne et par son intermédiaire des sceptiques de l'antiquité. La seconde et la troisième viennent des stoïciens . . . Ces règles ne sont pas issues de la méthode." This verdict is endorsed by P. Mesnard in his *Essai sur la morale de Descartes* (Paris, 1936), pp. 49 ff. It had already been reached in 1689 by Huet, who is cited by Gilson as concluding that "Descartes ne peut avoir tiré sa morale de sa méthode, puisqu'il l'a empruntée aux Anciens." This long established impression of banality should be relieved, once the "logical connexion" of the moral rules with the rules of method has been recognized, and the implications these moral rules thereby acquire in the context of Descartes' own philosophy.

Thus the "morale par provision" is admitted to be methodical in the elliptical sense that it treats a practical problem which arises when the scientific application of Descartes' method requires complete doubt. The treatment of the problem is not itself methodical. But this interpretation of "tirée de cette méthode" overlooks the fact that it is only the first rule of method which requires complete doubt, and not "cette méthode" without qualification.⁴ I shall, therefore, first examine the relation between this first rule and the other three rules of method. I shall then examine "l'ordre des sciences," for the premise of Lévy-Bruhl's and Gilson's interpretation of the "morale par provision" is provided by their appeal to "l'ordre des sciences telles que la méthode cartésienne les aura reconstituées." But Descartes' method is not merely applied, as their phraseology implies, in reconstructing the sciences themselves. Its application determines the sequential order in which they are reconstructed, and the place of the "morale par provision" in this sequence is not less determined by his method than the place of "la morale qui ne doit venir que la dernière dans l'ordre des sciences." I shall next examine the internal structure of the "morale par provision," as a problem of the relationship between its rules and the rules of method, and I shall defend the conclusion, which Lévy-Bruhl and Gilson deny, that it is a methodical construction. In formulating the fourth and final rule of his "morale par provision," Descartes does anticipate the practical consequences of his eventual reconstruction of the sciences. When I arrive at this rule in my exposition, I shall finally examine the

⁴ The other half of Lévy-Bruhl's interpretation similarly extends without qualification to all of the moral rules the generalization, "les exigences de la vie pratique ne souffrent aucun délai." But Descartes' own comment is qualified: "Les actions de la vie ne souffrant souvent aucun délai" (op. cit., VI, p. 25). He makes this comment, moreover, in formulating a single precept of his second moral rule, and in formulating his first moral rule he argues that there are practical decisions which he can appropriately delay. Some of the phraseology of Lévy-Bruhl's generalization may be borrowed from Descartes' reference to the "morale par provision" in IX, p. 13, but Descartes' statement there is not that "les actions de la vie" themselves but that the problem of regulating these actions, by formulating moral rules (which include this first moral rule), "ne souffre point de délai."

structural differences between the "morale par provision" and the later "morale" which should come "la dernière dans l'ordre des sciences," but which Descartes is presumed never to have reached.

The Rules of Method.

In the first section of the *Discours*, Descartes raises "considérations touchant les sciences." His explanation of this title links these considerations to the rules of method which are formulated in the second section: "Je pense avoir eu beaucoup d'heur, de m'être rencontré dès ma jeunesse en certains chemins qui m'ont conduit à des considérations et des maximes, dont j'ai formé une méthode."¹ He begins the first section by brusquely raising a psychological consideration which will turn out to be fundamental to the formulation of his first rule of method: "La puissance de bien juger, et distinguer le vrai d'avec le faux, qui est proprement ce qu'on nomme le bon sens ou la raison, est naturellement égale en tous les hommes." And he therefore concludes, "La diversité de nos opinions ne vient pas de ce que les uns sont plus raisonnables que les autres, mais seulement de ce que nous conduisons nos pensées par diverses voies, et ne considérons pas les mêmes choses."² Just as he has accounted for the identity of truth for all men's minds by assuming that they do not differ with respect to their rational ability to discriminate the true from the false, so he also accounts psychologically for their diverse (and hence presumably false) opinions. He assumes that they direct their thoughts "different ways" and do "not observe the same objects," because they differ with respect to their other mental abilities, to which he alludes with a sigh of modesty: "Pour moi, je n'ai jamais présumé que mon esprit fût en rien plus parfait que ceux du commun; même j'ai souvent souhaité d'avoir la pensée aussi prompte, ou l'imagination aussi nette et distincte, ou la mémoire aussi ample, ou aussi présente, que quelques autres. Et je ne sache point de qualités que celles-ci, qui servent à la perfection de l'esprit."³

¹ VI, p. 3.

² Ibid., p. 2.

³ Ibid.

Descartes regards this list of "qualities" as exhaustive, since he repudiates the implication, which he associates with the scholastic (i.e., Thomistic) psychology, that there are "diverses petites entités en notre âme" which correspond to the "diversités" in the objects to be known.¹⁰ The mind is, therefore, capable of performing only the following cognitive operations: (1) reflecting upon itself in order to discriminate its own contents, and it is this capacity which he has identified as "la raison" (or "l'entendement"); (2) directing itself outwardly by an act of will in order to represent an object external to it, and it is this active capacity which he is now identifying as the imagination; and (3) retaining sensory impressions received from external objects, and it is this passive capacity which he is identifying as the memory.¹¹ His modest sigh is not (as it is sometimes interpreted) false modesty, intended merely to disarm his reader, who is shortly to be confronted with his "ambition incroyable" of reconstructing the sciences.¹² Descartes is prepared to concede that the "rapidity" with which an individual can perform mental operations depends both on the extent to which he is imaginatively capable of representing external objects "definitely and distinctly" and on the "scope" of his memory's capacity to retain sensory impressions of external objects. For he is making this concession only by way of emphasizing that reliance on these capacities exposes one's mind to external influences, which may interfere with its reflective discrimination of the true from the false. His modesty

¹⁰ II, p. 598. Since we usually associate this implication with a "faculty" psychology, I shall employ the technically less comfortable term "capacity." This term suggests, moreover, a container as well as contents, and we shall find Descartes resorting to this metaphor in describing psychologically both the scientific and the practical applications of his method.

¹¹ The imagination Descartes is referring to here is not the passive capacity which is indistinguishable from the memory (X, p. 414), but the active capacity which the mind exercises in representing extended substance and its modes. This capacity is active (in contrast with the understanding as well as with the senses and the memory) in that its exercise involves the intervention of the will. See VII, p. 73, where Descartes explains that "mihi peculiari quadam animi contentione opus esse ad imaginandum, qua non utor ad intelligendum."

¹² X, p. 158.

dramatizes his confidence that his own reliance instead on this reflective operation will ensure his eventually making greater mental progress than can be made by anyone whose mind is more rapid and more capable, but unrestrained and erratic in its operations: "Ce n'est pas assez d'avoir l'esprit bon, mais le principal est de l'appliquer bien. Les plus grandes âmes sont capables des plus grands vices, aussi bien que des plus grandes vertus; et ceux qui ne marchent que fort lentement, peuvent avancer beaucoup davantage, s'ils suivent toujours le droit chemin, que ne font ceux qui courrent, et qui s'en éloignent."¹³

These psychological considerations help explain the negative formulation of his first rule of method in the second section: "Le premier était [1] de ne recevoir jamais aucune chose pour vraie, que je ne la connusse évidemment être telle: c'est-à-dire [2] d'éviter soigneusement la précipitation et la prévention; et [3] de ne comprendre rien de plus en mes jugements, que ce qui se présenterait si clairement et si distinctement à mon esprit, que je n'eusse aucune occasion de le mettre en doute."¹⁴ This rule assumes that the problem of verification is a psychological problem of discriminating reflectively what is actually present to the mind. Without reflection what is actually present is not "evident"—i.e., known to be actually present. The mind's own contents are instead obscured and confused by having become components of judgments directed towards objects external to it. Thus the rule's negative formulation indicates that the reflective discrimination of what is true requires enforcing certain restraints on the operations of the mind that are involved in making these judgments. The "précipitation" that is to be "avoided" is a too "rapid" act of imaginative judgment. It is the characteristic fail-

¹³ VI, p. 2. Descartes offers here a moral illustration of the necessity for "employing" the mind methodically. This illustration would be pointless if his method could not be applied in practice as well as scientifically. The metaphor of "walking slowly," which is a description of the way in which he will be kept to "the straight road" of linear deduction by the scientific application of his method, suggests its imposition of a step by step sequence on the operations of the mind. But the citation at the beginning of this article has already provided an instance ("marcher avec assurance en cette vie") where this metaphor has a practical reference.

¹⁴ VI, p. 18.

ing of those whom Descartes has rebuked for "running" in making their judgments. Their mental operations lack continuity of direction. "They deviate from the straight road," because their successive judgments are movements of their minds in different directions towards different objects. The "prévention" that is also to be "avoided" is the persisting influence in their memories of their sense impressions of these objects. If "prevention" as well as "precipitation" is to be avoided, "no occasion of doubting can be omitted," for the process of judgment must be suspended until previous sensory influences have been completely undermined, so that the scope of judgment is restricted to what is actually present to the mind.

The requirements which are thus brought to bear on the process of verification by the first rule of method, are also brought to bear on the process by which Descartes constructs his scientific system. They will emerge more definitely as we examine this process, which is to be regulated by the remaining three rules of method. The first rule of construction (i.e., the second rule of method) requires a discriminative operation: "Le second, de diviser chacun des difficultés que j'examinerais, en autant de parcelles qu'il se pourrait et qu'il serait requis pour les mieux résoudre."¹⁴ In the fourth section of the *Discours*, Descartes will lay "les fondements de la métaphysique" when he applies this rule by discriminating the ideas which are present in his mind, all of which must have "quelque fondement de vérité," in contrast with objects external to his mind that can cause error.¹⁵ In order to construct a scientific system upon these metaphysical foundations, Descartes will next apply a second rule of construction (i.e., the third rule of method), which requires maintaining continuity of direction in making successive acts of judgment: "La troisième, de conduire par ordre mes pensées, en commençant par les objets les plus simples et les plus aisés à connaître, pour monter peu à peu, comme par degrés, jusques à la connaissance des plus composés."¹⁶ Descartes will apply this rule in the fifth

¹⁴ Ibid.

¹⁵ VI, p. 40.

¹⁶ VI, p. 18.

section, "L'ordre des questions en physique." For "précipitation" and "prévention"—deviations in the direction taken by successive acts of judgment—can be avoided in treating the subject-matter of physics, which is external to the mind, only if the mind's operations are its deductive movement from the intellectually simple metaphysical foundations already laid in the fourth section to the intellectually more complex structure of physics itself. In order to construct a scientific system which will be complete in its scope, the requirement imposed by the third rule of construction (i.e., the fourth rule of method) must finally be met: "Et le dernier, de faire partout des dénombremens si entiers, et des revues si générales, que je fusse assuré de ne rien omettre."¹¹ In the sixth and final section, "Quelles raisons l'ont fait écrire," Descartes will be applying this third rule when he "reviews" what he has accomplished and indicates the problems which he has "omitted" and which still await treatment. These are practical problems. Their treatment will render his philosophy complete as a "practical" philosophy in contrast with the merely "theoretical philosophy" of the scholastics.¹² It is this prospect which justifies Descartes' satirical contrast, which I cited at the beginning of this article, between his own practical orientation and the speculative irrelevancies of the mere theorist.

L'Ordre des Sciences.

The order in which the sciences are to be reconstructed is not simply the successive introduction of the requirements imposed by Descartes' rules of method. The method is applied (as the title of the *Discours* brings out) "pour bien conduire sa raison," or (as the title of the *Regulæ* puts it) "ad directionem ingenii." The requirements which are successively introduced by these rules of method thus institute a sequence of psychological operations.¹³

¹¹ VI, p. 19.

¹² VI, p. 61.

¹³ See the fifth of Descartes' *Regulæ ad directionem ingenii*, which explains, "Tota methodus consistit in ordine et dispositione eorum ad quae mentis acies est convertenda" (X, p. 379). When commentators stress the fact that Descartes' method requires following a sequential

We have already recognized the psychological restraints which are imposed by the negatively formulated rule of verification. These restraints are to be imposed on the other capacities of his mind, so long as he is employing his rational capacity in performing the discriminative operation required by the first rule of construction. For what is actually present to his mind "ne se conçoit que par l'entendement pur"—i.e., by the mind purified of any imaginative or sensory influences.²¹ But the material subject-matter of physics, in contrast with the mental subject-matter of metaphysics, requires treatment by "l'entendement aidé par l'imagination," for this second capacity of the mind must next be brought into operation, if the mind is to represent to itself what is external to it.²² Thus when, but only when, the metaphysical foundations of Descartes' scientific system have once been laid, the restraint he has imposed upon his will and imagination must be relaxed. The influence of the senses must still be restrained. Since they indicate to the mind its dependence on a particular body, which is of limited extension, their influence deprives the mind of the independence that is required for it to represent the geometrical subject-matter of physics, which is "un corps continu, ou un espace *indéfiniment étendu*."²³ When, but

order, they usually dwell on instances where this order is a sequence of mathematical operations. But Descartes' own philosophical effort was to remove his method's mathematical "integumentum" (*ibid.*, p. 374). It is only when this "husk" is removed (and my exposition here is an attempt to remove it) that a method is found which can be applied "ad directionem ingenii." Descartes' resort to method in "orienting his mind," accompanies his rejection of final causes. The scholastic universe imposed its teleological structure on the faculties of the human mind, which were hierarchically ordered in a fashion which corresponds to the hierarchical order of objects in the universe. Descartes' rejection of final causes thus involves his further rejection (which we have already noted) of this correspondence. The problem of orienting his mind then arises as a problem of imposing a sequential order on its operations. See below, notes 36 and 44.

²¹ III, p. 691.

²² *Ibid.*

²³ VI, p. 36. For the way in which the imagination aids the understanding in the process of geometrical representation, cf. VII, p. 72: "When I imagine a triangle, I do not merely understand that it is a figure composed of three lines, but I also am aware of these three lines as rendered

only when, the subject-matter of physics has been treated, this restraint on the influence of the senses must in turn be relaxed, in order to remember and bring before the mind problems that so far have necessarily been "omitted"—the practical problems which arise because of its union with a particular body: "Les choses qui appartiennent à l'union de l'âme et du corps, ne se connaissent qu'obscurement par l'entendement seul, ni même par l'entendement aidé de l'imagination; mais elles se connaissent très clairement par les sens."²⁴ Thus the successive application of the second and third rules of construction will bring into operation a capacity of the mind that was restrained so long as the previous rule was being applied, until the capacities which Descartes listed at the beginning of the *Discours* as contributing "à la perfection de l'esprit" have all made their contribution to the construction of his scientific system.²⁵

The completion of this system, with the treatment of practical problems which is envisaged in the sixth section of the *Discours*,

present by the force of my mind [acie mentis]; and this is what I mean by imagining."

²⁴ III, p. 692. Because the operations of the imagination depend on the initiative of the will (cf. above, note 11), Descartes cannot rely on imaginative representations in demonstrating the existence of any particular body (VII, p. 72). He employs instead sensory impressions, which he can conclude depend on external causes since they are passively received: "For it was my experience that these impressions were presented to my mind without the intervention of my will" (*ibid.*, p. 75).

²⁵ Apparently no one has bothered to explain why Descartes, having formulated twenty-one rules of method in his unfinished *Regulae*, decided in the *Discours*, "J'aurais assez des quatre suivants" (VII, p. 18). My interpretation suggests that the explanation is provided by "l'ordre des sciences" which is traced by the *Discours* and which is the result of applying these four rules. The sequence of psychological operations, which their application institutes, is not as mechanical an imposition and relaxation of restraints as my too brief exposition might suggest. For the effort to impose restraints on the mind itself poses a psychological problem, which may require their temporary relaxation. Cf. such interludes as the following in Descartes' metaphysical effort to clarify *the nature of the human mind*: "My mind is inclined to wander off [aberrare] and cannot yet be restrained [cohiberi] within the limits of the truth. So be it. Let us relax the reins [laxissimas habenas ei permittamus (French: "relâchons-lui la bride")], so that when we afterwards draw it back, it will yield more readily to being regulated" (VII, p. 29).

will culminate in the "morale parfaite." But from the fact, to which Lévy-Bruhl and Gilson appeal, that this "morale parfaite" is "la dernière dans l'ordre des sciences telles que la méthode cartésienne les aura reconstituées," their conclusion does not follow that the "morale par provision" of the third section is not itself a methodical construction. The distinction between this "morale imparfaite," which Descartes explains "on peut suivre par provision pendant qu'on n'en sait point encore de meilleure," and "la plus parfaite morale," which he identifies as "le dernier degré de la sagesse," is not a distinction between his not yet applying and his finally applying his method, but a distinction between its provisional and its final application.²⁶ His method is applied not only in the last three sections of the *Discours* in the way I have outlined, but also in the first three sections. And its scientific application in the first two sections is no less provisional than its practical application in the third section.²⁷ This third section, like the sixth section, begins with the review that is prescribed by the third rule of construction. In this review Descartes recognizes the fact that the application of this method in the two previous sections has been preparatory and provisional, as well as the fact that his preparations for its final application remain incomplete until he has also constructed a

²⁶ IX, p. 14.

²⁷ The application of Descartes' method in the first three sections is provisional in that it begins with and depends on his discrimination in the first section of different opinions which he has received from others. Its application in the last three sections is final in that it begins with complete doubt, in terms of which he finally rejects these traditional opinions, and depends on his discrimination, in the fourth section, of ideas which survive this doubt because they are innate in his own mind. These innate ideas are the "principles of philosophy" which are fundamental to the other sciences, and Descartes outlines their discrimination in the fourth section, "afin qu'on puisse juger si les fondements que j'ai pris sont assez fermes" (VI, p. 31). But he also is applying the first rule of construction in the first section, when he discriminates the different sciences in which he had received instruction from others and concludes that "pour les autres sciences, d'autant qu'elles empruntent leurs principes de la philosophie, je jugeais qu'on ne pouvait avoir rien bâti, qui fût solide, sur des fondements si peu fermes," as the "diverses opinions" which compose the philosophical tradition, "sans qu'il y en puisse avoir jamais plus d'une seule qui soit vraie" (VI, p. 8).

"morale par provision" that deals with the practical problem which he has so far omitted:

Et enfin, comme ce n'est pas assez, avant de commencer à rebâtrir le logis où on demeure,²² que de l'abattre,²³ et de faire provision de matériaux,²⁴ et d'architectes, ou s'exercer soi-même à l'architecture,²⁵ et outre cela d'en avoir soigneusement tracé le dessin,²⁶ mais qu'il

²² Descartes "begins" this "reconstruction" of the scholastic scientific system only in the fourth section.

²³ Descartes "demolishes" the scholastic system by applying his rule of verification. But if the other three rules of method are left out of account and Descartes' method is simply equated (as it is by Lévy-Bruhl's and Gilson's interpretation of "tirée de cette méthode") with the rule of verification's final requirement of complete doubt, then the first two sections must be dismissed as unmethodical. For this final psychological restraint is not imposed in the first two sections, just as it is progressively relaxed in the last two sections. At the end of the first section Descartes regards his acquaintance with "diverses opinions" as merely emancipating him "peu à peu de beaucoup d'erreurs, qui peuvent effusquer notre lumière naturelle, et nous rendre moins capable d'entendre raison" (VI, p. 10). In the second section he is still not prepared to rely entirely on this reflective capacity by doubting everything. See below, note 32.

²⁴ The provisional application of Descartes' method is not entirely destructive: "Comme en abattant un vieux logis, on en réserve ordinairement les démolitions, pour servir à en bâtir un nouveau; ainsi, en détruisant toutes celles de mes opinions que je jugeais être mal fondées, je faisais diverses observations et acquérais plusieurs expériences, qui m'ont servi depuis à en établir de plus certaines" (VI, p. 29).

²⁵ In the second section Descartes criticizes the scholastic system by comparing it with "ouvrages composés de plusieurs pièces" (VI, p. 11). This lack of structural unity illustrates a lack of continuity in its construction that is due to failure to avoid "précipitation" and "prévention." His own mathematical application of his method in this section is the "architectural exercise" that prepares his mind to maintain this continuity in the manner required by the second rule of construction.

²⁶ Until Descartes has "carefully designed a model" for a scientific system in the second section, he is still not prepared to begin its actual construction by submitting his mind to the final restraint of complete doubt: "Même je ne voulus point commencer à rejeter tout à fait aucune des opinions, qui s'étaient pu glisser autrefois en ma créance sans y avoir été introduites par la raison, que je n'eusse auparavant employé assez de temps à faire le projet de l'ouvrage que j'entreprendais" (VI, p. 17). The imaginative model which he needs for this "project," he finds in the deductions of traditional geometry, as soon as he has recognized the methodological significance of his model by reference to his rule of verification and to his second rule of construction: "Ces longues chaînes de raisons, toutes simples et faciles, dont les géomètres ont coutume de se

faut aussi s'être pourvu de quelque autre, où on puisse être logé commodément pendant le temps qu'on y travallera; ainsi, afin que je ne demeurasse point irrésolu en mes actions, pendant que la raison m'obligerait de l'être en mes jugements, et que je ne laissasse pas de vivre dès lors le plus heureusement que je pourrais, je me formai une morale par provision.²²

The Moral Rules.

I shall postpone examination of the formulation of this "morale par provision," until after I have examined the simpler moral rules which Descartes formulates later in a letter to the Princess Elisabeth.²³ This detour will introduce a further test of Lévy-Bruhl's and Gilson's interpretation of Descartes' claim that his "morale par provision" is "tirée" from his method. They interpret this claim as a reference to the complete doubt which the rule of verification requires, and which in turn compels him to deal, albeit unmotivatedly, with "les exigences de la vie pratique." But this interpretation of "tirée de cette méthode" cannot be extended to these simpler moral rules, since they are formulated without reference to the rule of verification. Yet Descartes himself asserts in his letter that these simpler moral rules require "trois choses, auxquelles se rapportent les trois règles de morale, que j'ai mises dans le *Discours de la méthode*." I shall provide a different interpretation of "tirée de cette méthode" by showing that these three requirements are those which we found implicit in the rules of method. Thus these simpler moral rules can be viewed as Descartes' attempt to formulate methodically "the requirements of practical life." I shall then account for this "relationship" which Descartes asserts between the two sets of moral rules, by interpreting the more complicated rules of the "morale par provision" as a reformulation of these requirements that is adjusted

servir, pour parvenir à leurs plus difficiles démonstrations, m'avaient donné occasion de m'imaginer que toutes les choses, qui peuvent tomber sous la connaissance des hommes s'entre-suivent en même façon, . . . pourvu seulement qu'on s'abstienne d'en recevoir aucune pour vraie qui ne le soit, et qu'on garde toujours l'ordre qu'il faut pour les déduire" (*ibid.*, p. 19).

²² VI, p. 22.

²³ III, pp. 263-68.

to the complex psychological situation which arises in the *Discours* when Descartes submits his mind to complete doubt.

The first of these simpler moral rules requires the discriminative operation that is fundamental in practice: "La première est, qu'il tâche toujours de se servir, le mieux qu'il lui est possible, de son esprit, pour connaître ce qu'il doit faire ou ne pas faire en toutes les occurrences de la vie." This discriminative operation corresponds to the scientifically fundamental discrimination of the true from the false which Descartes undertakes when he applies his first rule of construction in accordance with the general requirement of his rule of verification, "ne recevoir jamais aucune chose pour vraie, que je ne la connusse évidemment être telle."

The second moral rule presupposes (like the second rule of construction) the prior application of the first rule and adds the requirement of maintaining the will's resolution in action: "La seconde, qu'il ait une ferme et constante résolution d'exécuter tout ce que la raison lui conseillera, sans que ses passions ou ses appétits l'en détournent; et c'est la fermeté de cette résolution, que je crois devoir être prise pour la vertu, bien que je ne sache point que personne l'ait jamais ainsi expliquée; mais on l'a divisée en plusieurs espèces, auxquelles on a donné divers noms, à cause des divers objets auxquels elle s'étend."

The "stable and continuous resolution" of the will, which this rule requires in executing one's practical actions, corresponds to the continuity of the will's direction, which the second rule of construction requires in one's acts of judgment. This continuity, we recognized, is to be maintained in order to construct a unified scientific system. Its structure will not, therefore, be externally determined, as was the structure of the traditional scholastic system, by a natural hierarchy of objects in the universe which differentiate different sciences.³⁵ Descartes is now insisting on the unity of virtue in methodologically the same way as he insists, in

³⁵ Hence Descartes appended to his second rule of construction the requirement of maintaining this deductive continuity of direction even with respect to a sequence of objects which have no ontological precedence over each other: ". . . et supposant même de l'ordre entre ceux qui ne se précédent point naturellement les uns les autres" (VI, p. 18).

formulating the second rule of construction, on the unity of knowledge. Virtue is one in that it is the will's maintenance in practical actions (as knowledge is the will's maintenance in making scientific judgments) of its continuity of direction undeflected by different external objects. This continuity is to be maintained by resisting the deviating influences of the passions ("sans que ses passions ou ses appétits l'en détournent"), which are the psychological effects of these objects, and which would occasion different courses of action directed towards these objects. Thus this second moral rule not only corresponds to the second rule of construction but also imposes the same psychological restraint as was imposed by the rule of verification's second negative requirement that precipitate acts of judgment be avoided.*

The third moral rule (like the third rule of construction) presupposes the prior application of the two previous rules: "La troisième, qu'il considère que, pendant qu'il se conduit ainsi, autant qu'il peut, selon la raison, tous les biens qu'il ne possède point sont aussi entièrement hors de son pouvoir les uns que les autres . . ." The psychological effect of applying the third moral rule, in so far as it depends for its effectiveness on the prior applica-

* In interpreting the second requirement of Descartes' rule of verification, Gilson (op. cit., p. 198) points out that precipitation is the "vice de l'intellect chez saint Thomas" which "consiste à passer des principes à une conclusion en négligeant l'ordre requis pour délibérer correctement," and that it has become "un vice de la volonté chez Descartes," in conformity with his different theory of judgment as an act of the will. But the problem of "order" arises here for Aquinas in that the mind is free to impose an orientation on the will in those non-scientific matters which are subject to moral deliberation. What in Aquinas is a problem of ordering an intellectual act of moral judgment, becomes with Descartes' rejection of final causes in science (cf. above, note 20) a problem of ordering a voluntary act of scientific judgment. Yet it remains a moral problem as well for Descartes, as the phraseology ("d'exécuter tout ce que la raison lui conseillera") of this second moral rule illustrates, by apparently reproducing Aquinas' traditional characterization of precipitation as a vice opposed to "consilii rectitudo" (*Sum. Theol.*, II^a-II^m, qu. 53). Gilson's interpretation is incomplete because he does not recognize, when he comments on Descartes' second provisional moral rule, that the psychological phases of a practical action receive from the application of Descartes' method the same sequential order as the psychological phases of the construction of a scientific system.

tion of the two previous moral rules, is the same as the eventual psychological effect of applying the third rule of construction. The eventual psychological effect of Descartes' applying the third rule of construction will be his assurance that he has "omitted" nothing in the course of constructing his scientific system, because he has completely utilized the capacities which "servent à la perfection de l'esprit." This assurance will be obtained by a "review" of the process of construction, which will have been conducted in accordance with the first and second rules of construction. In the case of the third moral rule, the same assurance is obtained, and in methodologically the same way, by reviewing the course of action—i.e., by "considérant que, puisque nous avons toujours suivi le conseil de notre raison [i.e., applied the first and second moral rules], nous n'avons rien omis de ce qui était en notre pouvoir."

The effectiveness of this review depends not only on the prior application of the two previous moral rules but also on the further requirement, which this third rule adds, of delimiting "ce qui était en notre pouvoir." I repeat the rule: "La troisième, qu'il considère que, pendant qu'il se conduit ainsi, autant qu'il peut, selon la raison, tous les biens qu'il ne possède point sont aussi entièrement hors de son pouvoir les uns que les autres, et que, par ce moyen, il s'accoutume à ne les point désirer; car il n'y a rien que le désir, et le regret ou le repentir, qui nous puissent empêcher d'être contents." The restraint of doubt, which was finally imposed by the rule of verification's third negative requirement, similarly eradicated the influence of external objects on the process of judgment, by suspending this process until judgment was restricted to what was within the scope of the mind's own reflective operation. This restraint was complete when doubt had not merely "emptied" his mind of all particular opinions, formed under the influence of particular objects, but had also eradicated the methodological opinion that external objects as such were within the scope of scientific judgment.⁵⁷ In the same way the negative psychological effect of the application of the third moral rule is

⁵⁷ For Descartes' description of this doubting process as analogous to emptying a container, see XI, p. 481.

the eradication of the methodological opinion that external goods as such are within our practical scope: "Ce qui fait que nous ne désirons point d'avoir, par exemple, plus de bras ou plus de langues que nous n'en avons, mais que nous désirons bien d'avoir plus de santé ou plus de richesses, c'est seulement que nous imaginons que ces choses-ci pourraient être acquises par notre conduite, ou bien qu'elles sont dues à notre nature, et que ce n'est pas le même des autres: de laquelle opinion nous pourrons nous dépouiller." *

This complete restraint, which is finally imposed on the mind when the third moral rule is applied, secures the mind's independence in practice of the two variable factors whose influence was also restrained by doubt. Unless one's mind is so restrained, securing happiness seems to depend on the extent to which one has been capable of undertaking different courses of action and of attaining different goods, just as securing truth, to the unregulated minds of "ceux qui courent" in making their judgments, seems to depend on their being capable of directing their minds different ways and observing different objects. Happiness ("bonheur") Descartes defines as "un parfait contentement d'esprit et une satisfaction intérieure." And in formulating the third moral rule he has employed the term "content." He has done so because he is sensitive to the term's etymology. Although he concedes that the variable factors can contribute to the completeness of contentment (just as he has conceded that the corresponding intellectual capacities, which contribute "à la perfection de l'esprit," can contribute to the completion of a scientific system), he yet suggests the sense in which contentment, as self-contained fulfillment, can be relatively complete, by employing the analogy of a container whose relative fullness is determined by its own capacity as well as by how much it may happen to contain: *Comme un petit vaisseau peut être aussi plein qu'un plus grand, encore qu'il contienne moins de liqueur, ainsi, prenant le con-*

* The same restraint is required psychologically, since the passions (e.g., "le désir, et le respect ou le repentir, qui nous puissent empêcher d'être contents") which are caused by external goods "sont reçues en l'âme de même façon que les objets des sens extérieurs, et ne sont pas autrement connues par elle" (XI, p. 350).

tentement d'un chacun pour la plénitude et l'accomplissement de ses désirs réglés selon la raison, je ne doute point que les plus pauvres et les plus disgraciés de la fortune ou de la nature ne puissent être entièrement contents et satisfaits, aussi bien que les autres, encore qu'ils ne jouissent pas de tant de biens."

The Provisional Moral Rules.

The fact that Descartes' third moral rule imposes the same restraint on the mind as the third requirement of the rule of verification, indicates the psychological complexity of the practical problem which Descartes encounters in the *Discours* when he finally enforces this requirement and doubts everything. He does so, we recall, in order to rely only on his mind's reflective capacity during the metaphysical phase of his scientific program. He thus finds himself in a psychological situation where he has already completely imposed the restraint which he would ordinarily impose in practice when he has finally reached the reflective phase of a course of action and is applying the third moral rule. But in this psychological situation he is still faced in practice with the positive requirements of the two previous phases of a course of action. The first two moral rules, which formulate these requirements, will therefore have to be reformulated; and indeed the third moral rule as well, to the extent that it is a review of the two previous phases and depends for its effectiveness on the prior application of these two previous rules.

The first moral rule required Descartes to "se servir, le mieux qu'il lui est possible, de son esprit, pour connaître ce qu'il doit faire ou ne pas faire." But his mind is now subject to the restraint of doubt that completely "empties" it of his own opinions. "Le mieux qu'il lui est possible" in this psychological situation, is to discriminate between the opinions he can acquire from others whose minds are not subject to this restraint. And he can only discriminate between their opinions with regard to distinctively practical requirements—with regard to the ways in which these opinions are "reçues en pratique." For these opinions would have to be entirely rejected (like Descartes' own opinions), if appraised in accordance with the general scientific requirement of his rule of

verification, "ne recevoir jamais aucune chose pour vraie, que je ne la connusse évidemment être telle."³⁹

The three moral rules of the letter to Elisabeth applied to the three successive phases of a practical action. But when Descartes is applying the first provisional moral rule, he is discriminating between the opinions of others before he himself acts. He will, therefore, have to discriminate between these opinions by reference to all three phases. He will have to refer, in the first place, to the practical abilities of others to discriminate what they should do from what they should not do: "Commençant dès lors à ne compter pour rien les miennes propres [opinions], à cause que je les voulais remettre toutes à l'examen, j'étais assuré de ne pouvoir mieux que de suivre celles des mieux sensés." He will, in the second place, have further to discriminate between these opinions by referring to the actual actions these individuals perform: "Pour savoir quelles étaient véritablement leurs opinions, je devais plutôt prendre garde à ce qu'ils pratiquaient qu'à ce qu'ils disaient." He will, in the third place, have to discriminate between these opinions by reference to the likelihood of their remaining acceptable when he reviews the courses of action which they have prompted: "Entre plusieurs opinions également reçues, je ne choisissais que les plus modérées, . . . afin de me détourner moins du vrai chemin, en cas que je faillisse. . . . J'eusse pensé commettre une grande faute contre le bon sens, si, pour ce que j'aprouvais alors quelque chose, je me fusse obligé de la prendre pour bonne encore après, lorsqu'elle aurait peut-être cessé de l'être, ou que j'aurais cessé de l'estimer telle."⁴⁰

Just as this first provisional moral rule is a reformulation

³⁹ When Descartes appraised others' opinions scientifically, he found, "Je ne pouvais choisir personne dont les opinions me semblaient devoir être préférées à celles des autres" (XI, p. 16). But he now undertakes a discriminating choice between individuals. For the rules of the "morale par provision," see III, pp. 22-28.

⁴⁰ Needless to say, Descartes cannot refer to the eventual acceptability of these opinions to the other individuals themselves, since (as we have seen from the formulation of his third moral rule) the eventual effect of a course of action can only be appraised by the individual's own reflection.

of the first moral rule's requirement of discriminating what he should do, so the second provisional moral rule is a reformulation of the second moral rule's requirement of maintaining the continuity of his action. Just as the first reformulation indicates a distinctively practical way of circumventing the restraint imposed on his mind by the general scientific requirement of the rule of verification, "ne recevoir jamais aucune chose pour vraie, que je ne la connusse évidemment être telle," so the second reformulation indicates a distinctively practical way of circumventing the restraint imposed on his will by the second scientific requirement of the rule of verification, "d'éviter soigneusement la précipitation et la prévention." With respect to opinions Descartes is already acting upon, the second provisional moral rule requires what would be "prévention" if allowed with respect to acts of scientific judgment: "Ma seconde maxime était d'être le plus ferme et le plus résolu en mes actions que je pourrais, et de ne suivre pas moins constamment les opinions *les plus douteuses*, lorsque je m'y serais une fois déterminé, que si elles eussent été très assurées." Opinions established by "prévention" were originally precipitate judgments which lacked continuity of direction because they were made erratically by the will without prior reflective discrimination. By continuing to follow such opinions, Descartes is now to maintain the continuity of his actions independently of his judgments: "Imitant en ceci les voyageurs qui, se trouvant égarés en quelque forêt, ne doivent pas errer en tournoyant, . . . mais marcher toujours le plus droit qu'ils peuvent vers un même côté, et ne le changer point pour de faibles raisons, encore que ce n'ait peut-être été au commencement que le hasard seul qui les ait déterminés à le choisir."

With respect to actions still to be performed, the second provisional moral rule requires what would be "précipitation," if allowed with respect to acts of scientific judgment: "Les actions de la vie ne souffrant souvent aucun délai, c'est une vérité très certaine que lorsqu'il n'est pas en notre pouvoir de discerner les plus vraies opinions, nous devons suivre les plus probables; et même, qu'encore que nous ne remarquions point davantage de probabilité aux unes qu'aux autres, nous devons néanmoins nous

déterminer à quelques-unes, et les considérer après, non plus comme douteuses, en tant qu'elles se rapportent à la pratique."⁴⁴

As we have already anticipated, the third moral rule does not need reformulation to the same extent as the two previous rules. The negative reflection required by the third provisional moral rule resembles that required by the third moral rule: "Ma troisième maxime était de tâcher toujours plutôt à me vaincre que la fortune, et à changer mes désirs que l'ordre du monde; et généralement, de m'accoutumer à croire qu'il n'y a rien qui soit entièrement en notre pouvoir, que nos pensées." Nevertheless, the review required by this provisional moral rule is not the review required by the third moral rule. The third moral rule required reviewing the course of action which had been initiated as required by the first moral rule and continued as required by the second moral rule. But we have noted that a course of action which has been continued as required by the second provisional moral rule might have been initiated by "le hasard seul"—i.e., without the discrimination prescribed by the first provisional moral rule as well as by the first moral rule. Because such a course of action would initially have been entirely determined by causes external to the mind, a review of its course could not yield the contentment which Descartes defines as self-containment. Thus the review prescribed by the third provisional moral rule is merely a repetition of the reflection already prescribed by this rule: "J'avoue qu'il est besoin d'un long exercice, et d'une méditation souvent réitérée, pour s'accoutumer à regarder de ce biais toutes les choses; et je crois que c'est principalement en ceci que consistait le secret de ces philosophes [the Stoics], qui ont pu autrefois se soustraire de l'empire de la fortune, et, malgré les dou-

⁴⁴ When the rule of verification is applied, doubt restrains the will from precipitation by suspending its acts of scientific judgment. This irresolution must be overcome, so far as acts of practical judgment are concerned, in order to secure the resolution which the second moral rule requires to resist the influence of passions. Even though this doubt is methodically induced, it does not differ in its practical effect on the will from the irresolution which is a passion. Descartes defines the latter as "une espèce de crainte, qui retenant l'âme comme en balance entre plusieurs actions qu'elle peut faire, est cause qu'elle n'en exécute aucune" (XI, p. 459).

leurs et la pauvreté, disputer de la félicité avec leurs dieux." Thus the second and the third provisional moral rules, unlike the second and third moral rules of the letter to Elisabeth, are so formulated that each can be applied independently of the prior application of the previous rule. This formulation is an adjustment to the conditions of psychological restraint under which these provisional moral rules are applied. The need for the adjustment will become apparent in retrospect, when this difference between the two sets of rules has furnished a clue to the difference between both sets and the "morale parfaite."

La Morale Parfaite.

Descartes began the third section of the *Discours* with a review of the scientific program which he had decided to undertake. This review disclosed the problem of regulating his practical actions during the first metaphysical phase of this program when his mind is subject to the restraints finally imposed by the negative rule of verification. He has now treated this problem by formulating three provisional moral rules, which will enable him—despite these restraints—to discriminate what he should do, maintain the continuity of his actions, and secure contentment. These positive practical requirements, which are successively brought to bear by both sets of moral rules on the three psychological phases of a course of action, I have interpreted as the same as the positive scientific requirements which are successively brought to bear, by the three rules of construction, on the corresponding psychological phases of his scientific program. A final confirmation of this interpretation is provided by Descartes' regarding this scientific program as itself a course of action. For his fourth provisional moral rule is a review which brings these practical requirements to bear on his scientific program. He first takes into consideration the fact that men's practical occupations are diverse, so that he must discriminate what he himself should do: "Enfin, pour conclusion de cette morale, je m'avisai de faire une revue sur les diverses occupations qu'ont les hommes en cette vie, pour tâcher à faire choix de la meilleure." The second practical requirement is implicit in his resolution to continue his sci-

tific occupation: "Je pensai que je ne pouvais mieux que de continuer en celle-là même où je me trouvais, c'est-à-dire que d'employer toute ma vie à cultiver ma raison, et m'avancer, autant que je pourrais, en la connaissance de la vérité, suivant la méthode que je m'étais prescrite." For when he reviews the psychological effect of this occupation, he finds that the application of this method for securing knowledge is a completely effective way of meeting the third practical requirement of securing contentment to the exclusion of all external distractions: "J'avais éprouvé de si extrêmes contentements, depuis que j'avais commencé à me servir de cette méthode, que je ne croyais pas qu'on en pût recevoir de plus doux, ni de plus innocents, en cette vie; et découvrant tous les jours par son moyen quelques vérités, qui me semblaient assez importantes, et communément ignorées des autres hommes, la satisfaction que j'en avais remplissait tellement mon esprit que tout le reste ne me touchait point."

Not only does Descartes' continuing his scientific program therefore depend from now on upon practical as well as scientific requirements, but his formulation of the three provisional moral rules in terms of these requirements has also itself depended on his continuing this scientific program:

Les trois maximes précédentes n'étaient fondées que sur le dessein que j'avais de continuer à m'instruire: car Dieu nous ayant donné à chacun quelque lumière pour discerner le vrai d'avec le faux [sc., by applying the rule of verification], je n'eusse pas cru me devoir contenter des opinions d'autrui un seul moment [sc., by applying the first provisional moral rule], si je ne me fusse proposé d'employer mon propre jugement à les examiner, lorsqu'il serait temps; et je n'eusse su m'exempter de scrupule en les suivant [sc., by applying the second provisional moral rule], si je n'eusse espéré de ne perdre pour cela aucune occasion d'en trouver de meilleures, en cas qu'il y en eût. Et enfin je n'eusse su borner mes désirs, ni être content [sc., by applying the third provisional moral rule], si je n'eusse suivi un chemin par lequel, pensant être assuré de l'acquisition de toutes les connaissances dont je serais capable, je le pensai être, *par même moyen*, de celle de tous les vrais biens qui seraient jamais en mon pouvoir.

Thus the two programs—to secure knowledge and to secure contentment—although rendered temporarily independent of each other when the rule of verification and the provisional moral rules are applied, become not merely interdependent, in

that to continue the one is to continue the other, but will eventually coincide, in that the completion of the first program will also complete the second.

We must pause here in our exposition of the "morale par provision," since Descartes fails to settle for posterity the problem of his occupation by this fourth rule which he formulates "pour conclusion de cette morale." The Descartes that belongs to the history of philosophy pursues two irreconcilably different careers. Since he begins the construction of his scientific system with metaphysical reflections, he belongs to the idealistic metaphysical tradition, which is fundamentally opposed to modern science. Since he continues the construction of his scientific system with a materialistic physics, he belongs to the tradition of modern science, which is fundamentally opposed to idealistic metaphysics. The conclusion of Burtt's *Metaphysical Foundations of Modern Physical Science* is not only that the "reconciliation" of an idealistic and a materialistic approach must be brought about, but also that "an indispensable part of its foundation will be clear historical insight into the antecedents of our present thought-world," for which this reconciliation is "seemingly impossible."¹² Yet it would appear that most contemporary efforts to achieve this reconciliation, in opposition to Descartes, pay little historical attention to his own recognition—when he anticipates completing his scientific program—that this reconciliation seems impossible so long as it is posed as a reflective problem of metaphysics or as a mathematical problem of physics, but does not even present itself as a problem for practical life and ordinary social intercourse:

Les pensées métaphysiques, qui exercent l'entendement pur, servent à nous rendre la notion de l'âme familière; et l'étude des mathématiques, qui exerce principalement l'imagination en la considération des figures et des mouvements, nous accoutume à former des notions du corps bien distinctes; et enfin, c'est en usant seulement de la vie et des conversations ordinaires, et en s'abstenant de méditer et d'étudier aux choses qui exercent l'imagination, qu'on apprend à concevoir l'union de l'âme et du corps.¹³

¹² Op. cit., p. 324.

¹³ III, p. 692 (italics mine). Thus "ceux qui ne philosophent jamais" regard the mind and body "comme une seule chose."

The problems that do present themselves to a mind which is organically united to a particular body are practical problems. But once Descartes has completed his scientific program, these practical problems will no longer require methodical treatment in the fashion illustrated by the provisional moral rules or even by the moral rules of the letter to Elisabeth. Just as he anticipates a completed scientific system which will be composed, not of rules of method, but of "toutes les connaissances dont je serais capable," so he anticipates a "morale parfaite" which will not be composed of moral rules but will be this completed scientific system itself, in so far as his acquisition of this knowledge will exercise a regulative psychological influence on his practical actions.⁴⁴

" For the regulative influence exercised by the acquisition of one truth on the acquisition of others, cf. Descartes' statement, "chaque vérité que je trouvais étant une règle qui me servait après à en trouver d'autres" (VI, p. 20). For the extension of this regulative influence to his practical actions, cf. his list of the truths of metaphysics, physics, and psychology (i.e., the *Traité des passions*), which indicates their practical bearing (IV, pp. 290-94). Gilson (op. cit., p. 231), however, concludes: "Nous n'avons pas la morale définitive de Descartes . . . Sur ce point, comme en ce qui concerne la médecine et la mécanique, la philosophie cartésienne est demeurée inachevée." Gilson's comparison is based on a passage (IX, p. 14) in which Descartes links these two practical sciences to the "morale parfaite," but with an emphasis that Gilson passes over. Descartes explains that his scientific system will be complete when he has investigated "la nature des plantes, celle des animaux, et surtout celle de l'homme, afin qu'on soit capable par après de trouver les autres sciences *qui lui sont utiles*." These other sciences "se réduisent à trois principales, à savoir la médecine, la mécanique, et la morale." (He indicates that this third science is "la plus haute et la plus parfaite morale.") Mechanics (i.e., practical knowledge of "tous les corps qui nous environnent") will render men "maîtres et possesseurs de la nature" (VI, p. 62); while medicine (i.e., practical knowledge of the human body) will promote self-possession and self-mastery, since "l'esprit dépend si fort du tempérament, et de la disposition des organes du corps que, s'il est possible de trouver quelque moyen qui rende communément les hommes plus sages et plus habiles . . . c'est dans la médecine qu'on doit le chercher" (*ibid.*). The confidence that Descartes displays in these two practical sciences has seemed to some interpreters to drop out the "morale parfaite" as superfluous. But the italicised phrases in the above passage imply that the prospective contribution these two sciences will make to the completion of his scientific system is a function of their utility to man. The actual contribution made by the *Traité des passions* is indispensable, inasmuch as it investigates the criteria of utility: "L'usage de toutes les passions consiste en cela seul

This eventual simplification of the problem of regulating his practical actions can, however, be given methodical formulation, if we draw out the psychological implications of his rules of method and of his moral rules, in the way we did in interpreting the provisional complication of this problem. The complication occurred when scientific doubt, which was required by his rule of verification, suspended his judgment until he was restricted to utilizing his mind's reflective capacity in applying the first rule of construction. This suspension of judgment rendered his first moral rule ineffective. So long as scientific doubt was "emptying" his mind of his own opinions, he was to apply instead the first provisional moral rule, which required him to accept from others opinions "qui furent communément reçues en pratique." When he has replaced these opinions with his own knowledge of "vérités . . . communément ignorées des autres hommes," the problem of regulating his practical actions will be simplified. His acquisition of this knowledge will eventually involve his successive utilization of the other capacities of his mind, in accordance with the requirements of the second and third rules of construction. These rules of construction, we have recognized, regulate his utilization of these capacities in methodologically the same way as the second and third moral rules. Thus his will's continuity of direction, and his assurance that he has completely utilized all the capacities of his mind, will be secured as scientific requirements of the acts of judgment by which he has acquired knowledge. They

qu'elles disposent l'âme à vouloir les choses que la nature dicte nous être utiles" (XI, p. 372). Thus final causes, which Descartes eliminated when he laid the metaphysical foundations of his physics, remain anthropological phenomena. Some interpreters have found features of Descartes' investigation "de l'homme" in this treatise, since its first section is sub-titled, "Et par occasion, de toute la nature de l'homme." Yet those interpreters who have not assumed that "la plus haute et la plus parfaite morale" is superfluous, expect it should take the form of some lofty metaphysics and have been reluctant to find its lineaments in this treatise. But Descartes rejects the teleological universe and hierarchized structure of scholastic metaphysics, and there is no place left, in the psychological sequence of his own system's construction, for a moral philosophy which is metaphysical, any more than there is any place for practical concerns when *Méditations métaphysiques* (see IX, p. 4) are undertaken.

need no longer be secured, independently of his acquisition of this knowledge, as requirements of practical action. But his acquisition of this knowledge can itself be regarded as meeting the requirement of his first moral rule—"se servir de son esprit, le mieux qui lui est possible, pour connaître ce qu'il doit faire ou ne pas faire." This application of the first moral rule, because it involves the application of these rules of construction, will be so effective that the second and third moral rules can be reformulated and discarded as merely tracing the sequence of psychological effects which are instituted by its application: "D'autant que notre volonté ne se portant à suivre ni à fuir aucune chose, que selon que notre entendement lui représente *bonne ou mauvaise*, il suffit de bien juger, pour bien faire, et de juger le mieux qu'on puisse, pour faire aussi tout son mieux, c'est-à-dire, pour acquérir toutes les vertus, et ensemble tous les autres biens, qu'on puisse acquérir; et lorsqu'on est certain que cela est, on ne saurait manquer d'être content."⁴⁵

⁴⁵ Descartes adopted the psychological assumption, "notre volonté ne se portant naturellement à désirer que les choses que notre entendement lui représente en quelque façon comme *possibles*," when he formulated the third provisional moral rule's negative requirement that we regard "tous les biens qui sont hors de nous comme également éloignés de notre pouvoir." The different psychological assumption he is now adopting illustrates the difference between the "morale par provision" and the "morale parfaite." Gilson misses this difference when he interprets the later phrase in this passage, "toutes les vertus, et ensemble tous les autres biens," to mean that "la vertu est la source unique et totale de tous les vrais biens" (op. cit., p. 261). That his interpretation is suspect is suggested by his resort to a Stoic treatise for its elucidation. In his "morale parfaite" Descartes will part company with the Stoics at the juncture where he endorsed Stoicism in formulating his third provisional moral rule. To regard "tous les biens qui sont hors de nous comme également éloignés de notre pouvoir," leaves us with virtue as "la source unique et totale de tous les vrais biens." But this Stoic attitude involves the suppression, without discrimination, of all passions as equally vicious, since the passions are all the effects of things "hors de nous"—i.e., external to the mind. When Descartes has pointed this out (IV, p. 276), he concludes that the Stoics must have been "des mélancoliques, ou des esprits entièrement détachés du corps." He is himself a Stoic only so long as he is concerned in his *Méditations métaphysiques* to "accoutumer notre esprit à se détacher des sens" (IX, p. 9), and is concomitantly applying in practice the third provisional moral rule. He will be able to acquire not only "toutes les vertus,"

This relaxed "self-containment" of moral certainty, as well as scientific knowledge, will replace the strained "self-containment" of scientific doubt. When scientific doubt suspended the process of judgment, not only did the first provisional moral rule have to be applied, but this sequence of practical psychological effects, which flow from judgment and terminate in contentment, was also interrupted. The second and third provisional moral rules had, therefore, to be so formulated that these psychological effects could be secured by their application independently of the application of the first provisional moral rule. Scientific doubt will be maintained while Descartes is laying the metaphysical foundations of his scientific system, but its restraints will be progressively relaxed as he methodically utilizes all the capacities of his mind in order to continue and complete this system. A Descartes who has disappeared from the history of philosophy then finally emerges—a relaxed Descartes whose principal rule of method is not the rule of verification and whose preoccupa-

but also "tous les autres biens," once the knowledge of their psychological effects (i.e., of the passions) is available. For it is this knowledge which will enable him to discriminate anything external to his mind as either "bonne ou mauvaise." Thus knowledge rather than virtue (knowledge of the passions rather than simply single-minded resistance to the passions) will be the means of acquiring "these other goods." To interpret Descartes as a Stoic in his treatment of practical problems, is to reach, with V. Brochard, the conclusion that this treatment does not constitute "une partie essentielle du système" ("Descartes stoïcien," *Etudes de philosophie ancienne et de philosophie moderne* [Paris, 1912], p. 320). But this conclusion takes as final the merely temporary discrepancy, which is introduced by the "morale par provision," between his practical and scientific programs. Gilson also views the "morale par provision" as final, when he interprets the moral rules of the letter to Elisabeth as evidence that "la morale provisoire fut destinée à devenir telle quelle définitive" (op. cit., p. 231). But Descartes does not himself characterize these moral rules as final. They are neither provisional nor final, for they have no methodically determined place in "l'ordre des sciences." Unlike both the "morale par provision" and the "morale parfaite," these rules are generally applicable. Just as they could be reformulated as provisional moral rules, which apply in the specific psychological situation of complete doubt, so they can also be reformulated to apply in the specific psychological situation (which is now anticipated) of complete knowledge. But with this second reformulation they no longer compose a set of distinct rules and can be discarded, along with the rules of the "morale par provision."

tion is neither the modern science of physics nor its metaphysical foundations:

Je puis dire, avec vérité, que la principale règle que j'ai toujours observée en mes études et celle que je crois m'avoir le plus servi pour acquérir quelque connaissance, a été que je n'ai jamais employé que fort peu d'heures, par jour, aux pensées qui occupent l'imagination [sc., the mathematical problems of physics], et fort peu d'heures, par an, à celles qui occupent l'entendement seul [sc., the reflective problems of metaphysics], et que j'ai donné tout le reste de mon temps au relâche des sens et au repos de l'esprit.⁴⁴

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⁴⁴ III, p. 692.

HUME'S THEORY OF GENERAL IDEAS

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1. *Introduction.*

HUME's accomplishment in semantics is the introduction of the dispositional theory of meaning. Although confined to a brief section of *A Treatise of Human Nature*, viz., to Section VII of Book I, Part I, his treatment is sufficiently definite and advanced to contain not only a statement of the three premises which are necessary and sufficient for a dispositional theory but even a rudimentary version of a contextual field semantics. To be dispositional a theory of meaning must proceed from three premises: (1) the premise of functional meaning; (2) a definition of generality in terms of power or disposition; and (3) the premise of reified semantic dispositions. In the course of my introductory remarks about these premises I shall refer to the evidence that shows that Hume accepts each and every one.

The premise of functional meaning is to the effect that the appropriate use of words—the employment of words in accordance with the standard usage—discloses their meaning. In its extreme or radical version the premise is a downright identification of a meaning with an act, or acts, of using words, i.e., with actual occurrences. Since actual occurrences are particulars, this extreme form would appeal to a nominalist who wants to eschew universals, especially in a concern with meaning. But the radical premise is incompatible with the second premise of a dispositional semantics. For the second premise is intended to do justice to the fact that the same word may take care of endless variations of its meaning or, at any rate, of a number which is not limited to particular variations that occur with the act, or acts, of using the word. Accordingly, a dispositional semantics requires a moderate version of the premise of functional meaning.

In his pursuit of nominalism—an epistemology which has been traditionally allied with the opposition to an admission of

powers or dispositions—Hume not only endorsed the premise of functional meaning but, while agreeing with Berkeley that generality is the function of representing by a word or idea any of the things to which the word or idea is applicable, he perhaps thought that he accepted the premise in its extreme form. However, if Hume's semantics can be treated as a consistent system, we had better discount the tendency towards the radical view in favor of Hume's own subsequent interpretation of the linguistic function of representation, according to which the function is an agency of power rather than of actual verbal behavior.

The second premise of a dispositional semantics defines the office of generality, with which a word refers to things, in terms of a power or disposition to apply the word on an appropriate occasion. The definition, although at variance with the tradition of the nominalists, is actually congenial to nominalism because, by accounting for generality in terms of particular powers or dispositions, it replaces the alternative account expressed in terms of universals. Both alternatives are inspired by the desire to explain the multiple application of a general word to things without admitting the absurdity of an instantaneous mental survey of the inexhaustible variety of things to which the word is applicable. The alternative that resorts to universals is the view that a word designates all kinds of things, without the aid of a mental survey, in the sense of designating a universal which all the things concerned exemplify. In his preference for nominalism Hume proposes the alternative allowing powers or dispositions to take over the office of universals. Hume's point is that universals are not needed to explain the multiple application of words to things if we admit the existence of a power to apply one word to a variety of things. But a power would fail to take over the work of a universal if it were not a real agency of linguistic control, i.e., if it were not actually directing the use or application of the appropriate word. Hence Hume accepts the third premise of a dispositional semantics.

According to the third premise, a disposition which makes for semantic generality is to be reified, i.e., construed as a particular and as an agency in control of the employment of words. If hypostatization is to be avoided, we must show the feasibility of

translating, by means of some such procedure as logical analysis, sentences that contain disposition words (which therefore seem to be about dispositions) into sentences that mention nothing but actual entities. Attempts at such translation have not been generally accepted. However, even if such translation were feasible, it should not appeal to a nominalist because it would either bring back universals or else fail to explain the office of linguistic control. For the outcome of a procedure such as logical analysis is either logical construction or a bundle of sheer words. If the outcome is a logical construction, then it is a universal in the form of a concept; if a bundle of words, it is a mound of typographical ink incapable of controlling anything, least of all, the employment of other words.

This leaves Hume no choice. Since he is a nominalist he cannot allow for an interpretation in terms of universal concepts but must take a power or disposition to be a particular. And since he tells us that semantic dispositions are in control of the employment of general words, he definitely commits himself to reified powers.

The foregoing introductory comments enable me to bring into focus Humes's original solution of the problem of semantic reference. The problem is: How can a word be used to refer to an absent extra-linguistic object on an occasion when each and every present object is *specifically* different from the intended one? To illustrate the problem: How can the word "cat" be used to refer, among others, to a Siamese cat even if, at the time of the employment of the word, there are no actual cats around and the mental image associated with the word, if any, happens to be of a Persian cat? At any rate, this illustrates the way Hume's predecessors and contemporaries understood the problem of general reference or generality. In offering a solution Hume has at once overestimated and underestimated its significance. The remark that the solution amounts to a proof of nominalism—"will put it beyond all doubt and controversy"—betrays overconfidence. On the other hand, Hume does not realize that his preoccupation with general words does not restrict the scope of his theory because he does not know that all descriptive words are general, i.e., that all communicable description is general. And, most remarkably, Hume under-

estimates the originality of his theory of meaning: he believes, or at least he says, that the theory is only a restatement in a new form of Berkeley's argument for nominalism. The truth is that Hume's departure is altogether novel. Berkeley, unlike Hume, is a radical functionalist to whom generality is nothing but representation by a given image of all similar images. He would say, for instance, that the image of a particular cat associated with the word "cat" is general in the sense that resemblance to other cats enables the image to represent them. And Berkeley, again unlike Hume, is not a successful nominalist. For the two philosophers do not explain imaginal resemblance in the same way. Berkeley accepts the usual explanation according to which resemblance is established with respect to characteristics which comparable images have in common. He is unaware of the fact that to admit such common characteristics is to admit universals. There is, moreover, this difference: in his account of generality Hume replaces Berkeley's passive ideas by ideas in active control of word and images.

2. *The Mechanism of Generality.*

Hume's account of generality is based on four terms: (1) *particular* words, (2) *particular* images, (3) *particular* imaginal resemblances, and (4) *particular* dispositions or powers. In this enumeration italics serve to emphasize the success of Hume's nominalism: the four basic terms are all particulars. Hume's task is to explain general reference in terms of these four particulars or, as he puts it himself, to account for the application of particular words and images "beyond their nature." This way of understanding the task, i.e., the recognition that the function of a general word is to refer beyond itself, is an expression of Hume's moderate functional conception. Hume accomplishes his task by considering the joint effect of four psychological associations.

Association (1) connects a particular word with a particular image. For example, the word "cat" may be associated, in the reader's mind, with an image of his own pet.

Association (2) connects images in virtue of their resemblance. Different images of different cats are collected to-

gether because any two of them resemble each other. This kind of connection, however, does not imply the existence of a mentally detachable respect in which the collected images may be said to resemble one another, i.e., the existence of a universal. According to Hume, a mental disposition to shift from one image to another in a group of resembling images suffices for the formation of the group without the aid of any group defining characteristics or universals. Hume's own word is not "disposition" but "custom"—he speaks of a habit which prompts the replacement of one image by another—yet his differentiation between the latency of custom, on the one hand, and the overt shift from one image to another, on the other, makes it clear that he has in mind an agency of power. To quote: "They [i.e., images that resemble one another] are not really and in fact present to the mind, but only in power . . . The word raises up an individual idea [i.e., a particular image], along with a certain custom, and the custom produces any other individual one, for which we may have occasion." Let me illustrate the quoted statement. Suppose someone says, "The cat is the most beautiful of all quadrupeds," and, while he says that, the image of his pet cat floats into his mind. And let a friend ask him whether the assertion applies to the friend's cat. The answer would be "Yes" because the question presents an occasion on which the disposition to shift imaginal contents causes the speaker to replace the original image of his pet by the image of the friend's cat.

Association (3) connects a particular word with each of a group of images, for example, the word "cat" with the image of my cat as well as with the image of any other cat.

Association (4) connects a word with a particular power to bring forth an image from a group of resembling images rather than with any such particular image. This is the association that entitles us to call a word "general," or to speak of general reference, because the association enables the imagination to hold in abeyance the actual display of images or—to take advantage of Hume's apt word—because its effect upon thought is "abridgment." We may say, to illustrate the association concerned, that we know the meaning of the word "cat" provided we are aware of a power

to apply the word on appropriate occasions in advance of their actual occurrence.

That the reader may check my interpretation against the relevant text, let him consider the following central passage from Hume's section on abstract ideas:

This application of ideas, beyond their nature, proceeds from our collecting all their possible degrees of quantity and quality in such an imperfect manner as may serve the purposes of life, which is the second proposition I proposed to explain. When we have found a resemblance * among several objects, that often occur to us, we apply the same name to all of them, whatever differences we may observe in the degrees of their quantity or quality, and whatever other differences may appear among them. After we have acquired a custom of this kind, the hearing of that name revives the idea of one of these objects, and makes the imagination conceive it with all its particular circumstances and proportions. But as the same word is supposed to have been frequently applied to other individuals, that are different in many respects from that idea, which is immediately present to the mind; the word not being able to revive the idea of all these individuals, only touches the soul, if I may be allowed so to speak, and revives that custom, which we have acquired by surveying them. They are not really and in fact present to the mind, but only in power; nor do we draw them all out distinctly in the imagination, but keep ourselves in a readiness to survey any of them, as we may be prompted by a present design or necessity. The word raises up an individual idea, along with a certain custom, and that custom produces any other individual one, for which we may have occasion. But as the production of all the ideas, to which the name may be applied, is in most cases impossible, we abridge that work by a more partial consideration, and find but few inconveniences to arise in our reasoning from that abridgment.¹

* It is evident, that even different simple ideas may have a similarity or resemblance to each other; nor is it necessary, that the power or circumstance of resemblance should be distinct or separable from that in which they differ. *Blue* and *green* are different simple ideas, but are more resembling than *blue* and *scarlet*; though their perfect simplicity excludes all possibility of separation or distinction. It is the same case with particular sounds, and tastes, and smells. These admit of infinite resemblances upon the general appearance and comparison, without having any common circumstance the same. And of this we may be certain, even from the very abstract terms *simple idea*. They comprehend all simple ideas under them. These resemble each other in their simplicity. And yet from their very nature, which excludes all composition, this circumstance, in which they resemble, is not distinguishable or separable from the rest. It is the same case with all the degrees in any quality. They are all resembling, and yet the quality, in any individual, is not distinct from the degree.

¹ David Hume, *A Treatise of Human Nature*, Everyman Edition (London, 1949), pp. 28 f.

Granted that my interpretation of the quoted passage is substantially correct, let us turn to the wider context of Hume's semantics in order to consider the fact that he is not equally concerned with each of the four psychological associations.

3. The Equation of Generality and Power.

Although he mentions four basic associations, Hume is actually preoccupied with associations (2) and (4) while his lip service to associations (1) and (3) may be discounted as an expression of allegiance to Berkeley. The point is important because it is the emphasis on associations (2) and (4) that accounts for the equation of generality and power.

Let us note, to begin with, that if we can show that association (1) is not indispensable for Hume's mechanism of generality, then we have shown the same with regard to association (3). For if general reference may dispense with the correlation between the general word in use and any one among the relevant group of illustrative images, it is obvious that the correlation of the same word with each image of the group is equally dispensable.

Association (1) is dispensable for the simple reason that the particular image which it connects to a general word plays the dispensable part of a mere illustration. To Berkeley the image associated with a general word was not so much an illustration as a representative of other but similar images. And, as I have already mentioned, Hume occasionally speaks as if his own theory were a restatement of Berkeley's conception. Nevertheless, Hume makes two points which, in effect, are intended to prove that the meaning of a general word is independent of the image which happens to illustrate it.

First, Hume points out that any particular illustrative image is detachable from the meaning of a general word in the sense that the same image may occur as an illustration of the entirely different meaning of another general word. Consider, for example, a particular image of a thin man: the image illustrates equally the meaning of the word "thin" and the meaning of the word "man," and, since the two meanings are altogether different, neither can be identified with the associated image.

Second, Hume himself mentions instances of meaningful general words that cannot be illustrated by particular images at all. One of these instances is the understanding of the number word "thousand." Says Hume: ". . . when we mention any great number, such as a thousand, the mind has generally no adequate idea of it, but only a power of producing such an idea, by its adequate idea of the decimals under which the number is comprehended."² Let me restate what Hume says in order to make it clear that dispensability of illustrative images is the point. The word "thousand" is a general word which may be used with a meaning even though no illustrative image, to be associated with the meaning, is available. Hence, when the word is used with a meaning, the meaning is to be construed as a power or disposition to bring out a symbol for the number, for example, by visualizing or actually writing down the figure "1000."

Whatever the weight of his two points, the fact that Hume is primarily concerned with associations (2) and (4), and therefore—his evasion of a straightforward identification notwithstanding—with general reference in the mode of a power, becomes altogether evident upon the observation that "the most extraordinary circumstances" in terms of which Hume describes the employment of general words turn out to be the distinguishing characteristics of a semantic power or disposition. By definition, latency distinguishes a power from its overt manifestations. And, again by definition, a power is an agency of control and production. Let us identify these three distinguishing characteristics of power with the most extraordinary circumstances of Hume's semantics.

According to Hume, one of the most extraordinary circumstances in the employment of a general word is the function of counteracting the misleading or irrelevant details of an illustrative image by a mental shift to a different illustration. This is the function of control. The second, equally extraordinary, circumstance is the emergence of pertinent ideas in the course of a developing thought. To quote: "Nothing is more admirable than the readiness with which the imagination suggests its ideas, and presents them at the very instant in which they become necessary

* Ibid., p. 30.

or useful . . . One would think the whole intellectual world of ideas was at once subjected to our view, and that we did nothing but pick out such as were most proper for our purpose. There may not, however, be any present, beside these very ideas, that are thus collected by a kind of magical faculty in the soul . . ." The "magical faculty" is, of course, a figure of speech for the productive, or creative, agency of power. The power to control and bring forth relevant ideas is latent because, as Hume repeatedly observes, it takes the occurrence of an appropriate actual occasion to prompt an overt performance. Accordingly, the third extraordinary circumstance is exemplified by the latent power of recitation: the utterance of the first word of a poem that we know by heart is often the actual occasion that sets the power of reciting in operation.

But if we are entitled to conclude that Hume is the founder of a dispositional semantics, why have the earlier students of Hume's philosophy failed to reach the same conclusion? For one thing, they have been misled by Hume's own pronouncement of allegiance to Berkeley's theory of general ideas. Even more important is the adverse effect of a common misunderstanding of Hume's original conception of resemblance. To mention a recent influential writer, Norman Kemp Smith has reiterated a false charge against Hume to the effect that Hume, like Berkeley, cannot dispense with universals, because his treatment of generality involves universal respects of resemblance. Let us examine this issue.

4. *Resemblance and Field Theory.*

Hume reduces the problem of resemblance to a concern with simple qualities or data, i.e., to such questions as "why are *blue* and *green* more resembling than *blue* and *scarlet*?" The reduction proceeds as follows.

Let "A" and "B" designate two complex data (or images). Then each datum contains a number of simple components. Let A be represented schematically by the set of four simple components *manl*, and B, similarly, by *pa'qr*. According to this sche-

* *Ibid.*, p. 31.

matic representation, the resemblance between A and B depends upon, and therefore is reducible to, the resemblance between the simple components a and a' . The resemblance between two simple components however, cannot be a matter of some common feature or respect. For a common feature or respect would be a component in addition to the distinguishing feature of each of the resembling data, and a datum that has components would be complex and not simple.

Is this reduction of resemblance to comparable simple qualities objectionable? We might think so. For it would seem that comparison of simple qualities requires these to be specifications of one and the same generic quality, or, to use W. E. Johnson's terminology, to be determinates under the same determinable, and the admission of a common generic quality, or determinable, is hardly distinguishable from the admission of a universal. Hume is aware of this objection, and his doctrine of the "distinctions of reason" is intended to be an effective reply. A distinction of reason may be said to be a meaning in the sense of a mental power or disposition: it is a mental point of view from which observable data appear to be comparable in one of several alternative ways. The ways of comparability correspond to, and, in effect, play the part of differentiation of qualities according to kinds, or determinables, without the assumption that the latter exist. For, according to Hume's doctrine, a way of comparability is a dynamic effect of organizing an observable field into a perspective of observation.

This is not a doctrine which is easily understood. Anticipating misunderstanding Hume has warned us that the same principle of power which accounts for generality must be applied in order to account for the distinctions of reason, i.e., for determinables or kinds: "Before I leave this subject, I shall employ the same principle to explain that *distinction of reason*, which is so much talked of, and is so little understood in the schools." Since the warning has failed to forestall misunderstandings, a paraphrase of Hume's explanation may not be out of order.

Hume intends to say that a kind, or a determinable, is not a conceptually detachable universal but an effect of dynamic organization or articulation within the fields of perception and imagi-

nation, i.e., the effect from a perspective which directs resemblance into one channel at the expense of others. Accordingly, distinctions of reason are alternative modes of canalizing the same field into a set of resembling simple qualities. Let a field consist of three different complex data or images, A, B and C. One way of envisaging the field would pair A with B to bring out their resemblance in color against the background of C, whereas an alternative way might pair A with C against the background of B to bring out a resemblance of shape. Neither color nor shape, however—to consider two alternative points of resemblance only—are detachable from the context of the field as if they were contextually independent universals. Instead, either color or shape stand out, at the expense of each other, in the perspectival sense in which a figure stands out against its background or, more generally, in which a manifestation of mutually relevant agencies of power veils the presence of different powers in the same field. In short, Hume reduces resemblance to comparability and comparability to dynamic relevance within a field.

To substantiate the paraphrase in field terms let me quote at some length from the concluding paragraph of Hume's section on abstract ideas:

It is certain that the mind would never have dreamed of distinguishing a figure from the body figured, as being in reality neither distinguishable, nor different, nor separable, did it not observe that even in this simplicity there might be contained many different resemblances and relations. Thus, when a globe of white marble is presented, we receive only the impression of a white colour disposed in a certain form, nor are we able to separate and distinguish the colour from the form. But observing afterwards a globe of black marble and a cube of white, and comparing them with our former object, we find two separate resemblances, in what formerly seemed, and really is, perfectly inseparable. After a little more practice of this kind, we begin to distinguish the figure from the colour by a *distinction of reason*; that is, we consider the figure and colour together, since they are, in effect, the same and undistinguishable; but still view them in different aspects, according to the resemblances of which they are susceptible. When we would consider only the figure of the globe of white marble, we form in reality an idea both of the figure and colour, but tacitly carry our eye to its resemblance with the globe of black marble: and in the same manner, when we would consider its colour only, we turn our view to its resemblance with the cube of white marble. By this means we accompany our ideas with a kind of

reflection, of which custom renders us, in a great measure, insensible. A person who desires us to consider the figure of a globe of white marble without thinking on its colour, desires an impossibility; but his meaning is, that we should consider the figure and colour together, but still keep in our eye the resemblance to the globe of black marble, or that to any other globe of whatever colour or substance.*

Let me single out, from the quoted passage, three points that make for the plausibility of the interpretation in terms of fields of power. To say, as Hume does, that simple data contain "many different resemblances and relations" would be a downright contradiction unless the complexity of a simple datum is a contextual effect which the datum acquires in its dynamic relations to other data within the same field. Again consider the apparent contradiction of the statement according to which color and shape are at once indistinguishable and yet viewed in different aspects of resemblance. Contradiction is avoided if "different aspects" are alternative perspectival appearances of the same field in each of which the component data or images are empowered to "reflect" one another in a different way. "Reflection" is Hume's own expressive term for the effect of dynamic correlation within a field of power. Finally, there is the part of custom. With repetition we exercise and strengthen the power to direct comparable data into one channel of resemblance within the field of observation rather than into another. And the ease of habitual canalizing is the source of the illusion that the field exemplifies universal kinds or determinables.

The evidence may be considered insufficient for crediting Hume with anything but a groping in the direction of a field theory of meaning. One thing is certain, however. Since a field is a context, a field theory implies the contextual thesis to the effect that a word is used with a meaning only within the context of a complete sentence or proposition. And there is enough textual evidence to show that Hume accepts the thesis. But to do so we must turn from Section VII of Part I of the *Treatise* to Section VII of Part III, the section on the nature of belief.

* Ibid., pp. 32 f.

5. *Hume's Contextual Thesis.*

Hume has repeatedly pointed out that an idea does not differ in content from the corresponding existence proposition, i.e., from a belief which associates the idea with existence. Let me quote one relevant passage:

But I go further; and, not content with asserting, that the conception of the existence of any object is no addition to the simple conception of it, I likewise maintain, that the belief of the existence joins no new ideas to those, which compose the idea of the object. When I think of God, when I think of him as existent, and when I believe him to be existent, my idea of him neither increases nor diminishes. But as it is certain there is a great difference betwixt the simple conception of the existence of the object, and the belief of it, and as this difference lies not in the parts or composition of the idea which we conceive; it follows that it must lie in the *manner* in which we conceive it.⁸

Whether or not this passage is a statement of the contextual thesis depends upon the sense in which Hume uses the word "manner" when he says that the manner of conceiving an object distinguishes a simple conception from the corresponding belief, for example, the conception of a tree from the belief that there are trees. The present argument is that, according to Hume, a difference in the manner of conceiving an object affects the measure but not the nature of the power to be identified with a meaning, and that to attribute the same power, the difference of its measure notwithstanding, to both the simple conception and the corresponding belief is to uphold the contextual thesis.

To begin with the argument, let us consider what makes Hume certain that a simple idea differs from a belief. It appears, from the context of the quoted passage, that his certainty derives from the necessity of allowing for such fictitious ideas as the idea of a unicorn. The question he is faced with is: Since we know that there are no unicorns, is it not certain that our conception of a unicorn is not a belief in the existence of unicorns? And to this question Hume's answer is "Yes."

⁸ Ibid., p. 96.

And yet the question is not to be answered by a straightforward, and unqualified, yes or no. For we must distinguish between a belief which is an expression of personal conviction and an impersonal belief in the sense of a disowned existence proposition. And the distinction enables us to say, in agreement with the contextual thesis, that the meaning of the word "unicorn" is the meaning of the existence sentence, "There are unicorns," and that to say that the idea of a unicorn is a fiction is to explicitly disown the existence sentence. Hume himself comes surprisingly close to this position as he makes it clear that the manner of conceiving a belief is basic and the manner of conceiving an idea dissociated from belief is derivative, because the latter is merely an attenuated version of the former, as it were a power of belief reduced to a vanishing point. To quote again:

An idea assented to *feels* different from a fictitious idea, that the fancy alone presents to us; and this different feeling I endeavour to explain by calling it a superior *force*, or *vivacity*, or *solidity*, or *steadiness*. This variety of terms, which may seem so unphilosophical, is intended only to express that act of the mind, which renders realities more present to us than fictions, causes them to weigh more in the thought, and gives them a superior influence on the passions and imagination . . . And in philosophy, we can go no further than assert that it [belief] is something felt by the mind, which distinguishes the ideas of the judgment from the fictions of the imagination. It gives them more force and influence; makes them appear of greater importance; infixes them in the mind; and renders them the governing principles of all our actions.*

The italicized words of the quoted passage leave no doubt that the manner of conceiving an object that distinguishes a belief from a fictitious idea is to be understood in the dynamic sense of a power to command assent or, if the subjectivist language is preferable, as the believers's disposition to accept the conception without opposition or doubt. Among these italicized words only "vivacity" is questionable as far as dynamic connotation is concerned. For Hume has used the same word "vivacity" in order to define the difference between an original perception and an

* Ibid., pp. 99 f.

image which is a copy of the original. This is not to say that Hume has not intended the definition to be understood in a dynamic sense. But whatever his intention, Hume's commentators have diverted our attention from dynamics to an irrelevant property of some visual data by fastening their interpretation upon a misleading analogy; namely, they have assumed that an image is inferior in vivacity to the corresponding perception in the sense in which a reproduction may be a faint copy of an original painting. But, again, whatever else his intention, Hume did not mean vivacity in a pictorial sense. A reproduction is fainter than the original picture because it may lack lustre or brightness or because the reproduced shapes are less distinct and the reproduced colors are dulled. But faintness, in this pictorial sense, is a visual quality. And, since he has repeatedly asserted that an image and the original perception are alike in their sensory qualities, Hume's vivacity is not the same thing as pictorial faintness. This removes a possible objection against the dynamic interpretation of vivacity which distinguishes a belief from a fictitious conception.

The crucial consideration, in the present connection, is the identifiability of the power that makes for a belief with the power that stands for the generality of the corresponding idea. Hume himself has not made the identification explicitly. But he has assembled all the required evidence. Let us then complete his theory with the finishing touch.

As an example, consider the general word "tree." According to Hume, the generality of the word is the readiness, or power, with which the mind supplies alternative images each of which is a recognizable likeness of a tree. Each act of recognition would be expressed by some such judgment as, "This is an image of an oak," or "This is an image of a palm tree." And it is evident that these judgments of recognition are made within the framework of the belief that there are trees. This establishes, on Hume's own premises, the coincidence of the general idea of a tree with the belief in the existence of trees. And, incidentally, the readiness for varying images is not unlikely to be the same thing as Hume's vivacity.

But if he virtually identifies a general meaning with a belief,

Hume's failure to make the identification explicitly may account for the failure to observe, or, at least, to mention, a difference between a general meaning and a fiction. A fiction may be opposed to a belief because, unlike a general word, a fiction word cannot be applied in alternative acts of recognition. Given the fiction word "unicorn," the mind has no power of recalling different unicorns by supplying alternative memory images. Since there are no unicorns, judgments of recognition, such as, "This is an image of a unicorn of one kind," and "That is an image of a unicorn of another kind," are out of the question. In the absence of exemplification, a fiction is dissociated from a power to produce images of alternative exemplifications. And dissociation from alternative images and judgments of recognition is dissociation from their common framework in the form of a belief: the idea of a unicorn is dissociated from the belief that there are unicorns. Accordingly, Hume's semantics requires a minor amendment. Instead of saying that such words as "unicorn" are general words, let us correct Hume to say that fiction words are pseudo-, or quasi-, general words. At the same time, let us acknowledge our admiration for a theory of meaning which has survived through centuries without a need for a more substantial readjustment.

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CRITICAL STUDIES

POETRY, RELIGION AND THEOLOGY

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POETRY and religion, theology and philosophy are four facets of cultural life which are almost invariably bound together in some important relationship with each other. It is not simply that they are related in the initially vague sense in which every aspect of life is said to be related to every other, but in the more precise sense that to engage in any one inevitably leads on to one or more of the others. Thus the poets of the world have always drawn heavily upon the religious heritage of their lands, and religion, in turn, has always expressed its deepest convictions in dramatic form and in language which can only be called poetic. Moreover, not only have philosophy and theology either opposed or supplemented each other in every cultural period, but the two have also been in the most intimate relationship with both poetry and religion. Religion cannot avoid the self-scrutiny and reflection from which theology takes its rise, nor can great poetry be written which does not immediately plunge us into philosophical and theological problems even if the fact is often allowed to pass without recognition.

The three books we are to consider,¹ although each has its own integrity and individual theme, are bound together by their common concern for poetry and religion, theology and philosophy. Martz and Ross are interested chiefly in the relations between poetry and theology, while the essays edited by Hopper concentrate more

¹ Louis L. Martz, *The Poetry of Meditation* (New Haven: Yale University Press, 1954).

Spiritual Problems in Contemporary Literature, ed. Stanley R. Hopper, published by the Institute for Religious and Social Studies (New York and London: Harper and Brothers, 1952).

Malcolm Mackenzie Ross, *Poetry and Dogma* (New Brunswick: Rutgers University Press, 1954).

upon the aims and beliefs of the artist in his cultural setting and especially upon those features of the contemporary world which raise problems of a religious character. No series of essays, of course, can ever have the unity of a book by a single author, but there is a dominant theme in *Spiritual Problems* and it may be described as the relation between religion and the creative work of the contemporary artist. Behind virtually every essay is a concern for how religion should be related to culture and for the manner in which the novelist, dramatist and poet should treat those problems of modern life which can best be characterized as religious.

The works of Martz and Ross can, and indeed should, be read together, since they supplement and criticize each other in their attempts to deal with different aspects of 17th century English poetry and its relation to Christianity. Behind both books stands a concern for that phenomenon in English poetry which T. S. Eliot has called the "dissociation of sensibility"; both writers are agreed in their conception of the basic problem and both—Martz in his careful, circumspect fashion, and Ross in his doctrinaire, almost blatant, style—believe that this dissociation was a result of the decline of *sacramental* religion in the 17th century. The researches of the two, in addition to their contribution to literary history and criticism, bring us face to face with the underlying problem of understanding how poetry is related to theology and especially of deciding the status to be accorded to the materials of poetry, metaphor and symbol, in a comprehensive view of reality. These more basic problems are less explicit in Martz's work because his main aim is to offer an historical, critical interpretation of English metaphysical poetry, and the underlying questions are permitted to appear only indirectly and intermittently. Ross, on the other hand, is less concerned with poetry itself and more anxious to set forth explicitly his thesis concerning Christian symbolism in relation to Roman, Anglican and Protestant points of view. In this regard Martz's book is far more informative in its analysis and its contribution to the understanding of the poets selected—Southwell, Donne, Herbert, Crashaw—and much less assertive than Ross, who cares little for clarifying the thought of the poets he treats. Instead, he uses them as means of illustrating and reinforcing his thesis that the rejection by Protestants of certain

Roman (and Anglican?) theological doctrines led to the dissolution of the poetic symbols connected with these doctrines. Actually Ross's thesis extends beyond simply correlating poetic symbols with specific doctrines, but it includes the further and more basic contention that the Incarnation, and its interpretation as the consecration of the sensory world, forms the ultimate ground upon which any symbol can be validly used by a religious poet. Rejection of the Incarnation in this sense, the thesis runs, means the destruction of the "firmament," to use the favorite term of Ross, within which there can be any Christian poetry at all. Martz seems to accept a similar view, though it is nowhere clearly asserted.

Perhaps comparisons of this and a similar sort will be more profitably made by the reader himself after the central theses of the two books have been stated and some main points examined.

The description of certain English poets as "metaphysical" goes back to Dr. Johnson and his biographical-type criticism of such men as Donne, Cleveland and Cowley. The term, as T. S. Eliot said in his review of Grierson's *Metaphysical Lyrics and Poems of the Seventeenth Century*, has long "done duty as a term of abuse or as the label of a quaint and pleasant taste." And students of these poets well know how many since Johnson's time have had a hand in explaining the "essence" of metaphysical poetry to us. At the end of the same review, after briefly reconsidering some of the characteristics suggested by Johnson as definitive of metaphysical poetry, Eliot says, "It would be a fruitful work, and one requiring a substantial book, to break up the classification of Johnson. . . and exhibit these poets in all their difference of kind and of degree. . ." ² While we should not suppose that Martz was consciously following Eliot's suggestion, it is legitimate, I believe, to regard *The Poetry of Meditation* as just the sort of "substantial book" about the metaphysical poets which Eliot had in mind.

As Martz points out on many occasions, his study is a protracted attempt to place metaphysical poetry, or in his sug-

² T. S. Eliot, "The Metaphysical Poets", *Selected Essays 1917-1932* (New York, 1932), p. 250.

gested new phrase, the "poetry of meditation" (p. 4), in a tradition of religious meditation stemming from the type of spirituality characteristic of Counter Reformation Christianity. Martz goes deeper than Johnson who was impressed by one striking feature of this type of poetry, its paradox ("The most heterogeneous ideas are yoked by violence together"); he was in fact inclined to single out this formal or stylistic feature as definitive. Martz seeks a more substantial basis in human life itself and thus looks behind and beyond the poetry for the human concerns which the metaphysical poets were attempting to express. The conclusion of his search is that the poetry of meditation must be understood as the attempt to bring out of the conflict and chaos of ordinary life a unified self, a self at one with itself, with nature and with God. Such unification must be achieved, in so far as it is achieved at all, through the discipline of religious meditation upon the nature of God, the things of religion and man's duty to his fellow man. The book's brief conclusion (pp. 321 ff.) brings out this latter point very clearly, although I suspect that the reader will be somewhat surprised if not puzzled by the sudden leap from Herbert to Yeats and Gerard Hopkins which the conclusion makes.

By setting the poetry of Donne, Southwell and Herbert against a detailed background of meditation such as is to be found in the writings of Ignatius Loyola and François de Sales, Martz aims to show that poetic works like Donne's "Anniversaries" and Herbert's "The Temple" become intelligible as meditation symbolically and metaphorically expressed. Meditation, in the sense of the term characteristic of the *Spiritual Exercises*, thus forms the link between religion and poetry; in each the ultimate purpose is the same—to focus the attention of the self upon itself and to enable the self in so doing to discover God as that Self in which it can find fulfillment. Meditative poetry using the materials of the religious imagination and the doctrines of theology becomes what De Rougemont has called "a calculated trap for meditation." And the extent of the aesthetic quality depends upon the type and subtlety of the "calculation" employed.

The chief merit of Martz's way of establishing his thesis is its directness. He does not confine himself to showing that certain meditative works were available to be read by the poets (and this

is fortunate, because such argument is always hazardous), but seeks to make out his case by showing how the poems themselves can actually be interpreted, obscurities cleared up, seemingly disparate lines connected, etc., if they are read as poetry of meditation.

Despite Martz's primary interest in the poetic problem, his discussion takes him into the general religious history of the 17th century. In addition to interpreting the metaphysical poets he wants to show that "the Counter Reformation penetrated to English literature through methods of religious meditation that lay at the heart of the century's spiritual life . . ." (p. 13). Consequently a large part of his treatment consists of the marshalling of evidence, mostly data about the circulation of Catholic books in England, to show the widespread influence of Counter Reformation spirituality on English religious life. It is, as we shall note, in his defense of the general contribution made by Roman theology to the poetic sensibility, that Martz is led to discuss theological questions which can and must be considered in their own right quite apart from their connection with literary interpretation.

Critical discussion of the soundness of the principal literary thesis of the book, especially as it concerns detailed comparison with other interpretations of metaphysical poetry, is beyond my competence. This task must be left to those literary critics and historians who are well versed in the poetic material. And they will, I am sure, devote to this impressive book the attention and sharp scrutiny which it merits. A work as comprehensive as this, however, must touch upon themes theological and philosophical which are by no means confined to their precise relationship to 17th century English poetry. These themes must be considered in their own right and it is more than likely that they will not be given the attention they deserve by those whose interest is more strictly literary.

In his presentation of the development of earlier Medieval theology, Martz leaves out of account one very important influence, and oversimplifies a certain contrast in Christian thought which is of central importance for the sensibility possessed by his meditating poets. In his very helpful account of the structure

of the type of meditation he is considering (pp. 33 ff.), Martz introduces the all-important idea of the threefold division of the soul and the correlation of these powers with the Trinity. In this connection he rightly cites Bernard as the most striking example of this way of approaching the divine nature. But the entire account would have been improved had Martz gone back to the source of the meditative or reflective approach to God in the *De Trinitate* of Augustine. It was Augustine above all others to whom later medieval thinkers were indebted for the theory of the image of God in man. No other thinker can be credited with such brilliance in theological speculation as Augustine displayed in his attempt to find within the trinity of the soul's powers an analogue of the triune God. Augustine was the first to stamp the reflective approach upon Christian thought and it was he who first seriously and systematically attempted to understand and attain to God through the reflective progress of recovering the divine image in his own self. In this regard, all later followers of the reflective or ontological approach—the Victorines, Bernard, Bonaventura—find their ultimate source in the *De Trinitate*. Martz, to be sure, could not have been expected to include everything, but omission of a source as important as Augustine is unfortunate.

Moreover, if Augustine's thought had been given a more prominent place, Martz would have been in a better position to clarify a contrast upon which he depends in his poetic theory. He rightly notes a cleavage which developed in later medieval thought between those who, like Bernard, stressed the primary importance of piety and of the direct relation between the individual soul and God, and those who, like Abelard and Thomas Aquinas, placed more stress upon the discursive and dialectical elaboration of Christian faith in a vast system embracing the whole of known reality. Largely because he is uncritical in his use of oversimplified pairs of opposites (for example, "theology"—"emotion"; "abstract"—"concrete"; "divine"—"human"; together with the implication that all the left hand members correlate with each other), Martz is led to formulate the difference between Bonaventura and Bernard on the one side and Abelard and Aquinas on the other simply as an opposition between "affective piety" and "theology."

But Augustine's approach is the way of *immediacy*, the retirement of the self into itself in reflection aimed at recovering within the depths of the self the Uncreated Light, or the very presence of God. This path is meditative and not in the strict sense dialectical or argumentative. It does not start with the world or with the things of sense, but with the self and with the self's own awareness of its existence and its powers. For Augustine, the man who has been illuminated by faith and who seeks sincerely for God may, through reflection, be led to the grasp of that Uncreated Light in his own soul. The crucial modification of this approach, as Paul Tillich has shown, was made when Aquinas and others aiming at the dissolution of the approach through immediacy maintained that, in retiring into the self, the self can at best attain only to the first principles of the created light. Or another way of stating this is to say that for them the first principles of thought which the self can recover through reflection are no longer to be regarded as the presence of the *Uncreated Light*, but simply of *created* light and nothing more. This shift means that God is no longer to be recovered directly. Along with this development went a turning away from the self as a starting point in religion and a shift of attention from immediacy to the world of objects (the "cosmological arguments" come to the fore) and to dialectical or discursive mediation. More fundamental than any contrast between "emotion" and "thought" was the contrast between *immediacy* and the retirement into the self in meditation on the one hand, and speculative or dialectical *mediation* on the other.

This shift in emphasis carried with it a consequence of great importance for the poetic sensibility. Not only did the Augustinian tradition have a certain mistrust of the sensible world as a possible source of distraction of the self from God, but, following its Platonic heritage, it regarded its own reflective approach to God as a purely intelligible affair in which sense knowledge plays almost no part at all. Along with criticism and rejection of this reflective approach went a new concern for the world of sense, for the cosmos in all of its beauty of quality and of form. The Aristotelian Christianity which gradually replaced the Augustinian tradition at the end of the Middle Ages is characterized by a

sensebound epistemology, by a regard for the visible world and by a mistrust of the purely intelligible thought so dear to the Platonic tradition in Christianity.

The task facing the poets of meditation was therefore not so much the synthesis of "thought" and "emotion," as Martz suggests, but a much more complex one. On the one hand they had to strike a fruitful balance between the reflective approach through immediacy and the discursive approach with its analysis, comparison and contrast. And on the other, they had to work with the wealth of material made available by the new regard for the world of sense without losing the self at the center, for, according to Martz's own account of the meditative style, the self and its unification remained a matter of prime importance to the poets of meditation.

Throughout his treatment, Martz makes comments about Protestantism which are less than complimentary; it seems that he is under the illusion that Protestantism is all predestination and "omnipotence" while Roman Christianity is all "charity" and good works. And he seems unaware that whereas Aquinas clearly and unambiguously states that some men are predestined to perdition by God, Luther, for example, always condemned those who speculated about their election or that of others instead of trusting the Biblical promises of salvation.

Martz's brief account of Puritan meditation, particularly his idea of what the search for "evidence of election" meant, though it is undoubtedly included for completeness and to show that Puritanism also tried to introduce religious meditation, is not prefaced by a sufficient treatment of Protestant thought to enable the reader to understand the problems. Protestantism made the Bible central and this meant, among other things, that the Christian content must come from that source and not from the tradition within the church, and still less from the demands of aesthetic theory. Martz makes no attempt whatsoever to explain why Calvin, particularly, stressed the Biblical idea of predestination. In holding to the view that God alone in his providence is the determiner of the soul's ultimate destiny, Protestantism hoped to curtail the power of an ecclesiastical institution to set the conditions for salvation.

If it be objected to these complaints that literary criticism must not be expected to be theology, the edge of the reply is easily turned. For those for whom there is an intimate connection between aesthetics and theology, there is an obligation to be as sound and critical in the theology as in the aesthetics. The chapter on Baxter serves little aesthetic or literary purpose within the whole discussion and leaves out so much of importance that it is of little value theologically.

Martz rightly stresses the fact that Puritan Protestantism had an entirely inadequate appreciation of the aesthetic dimension of life, but this is only partly due to the popular idea of the "mistrust of the senses" in Puritanism. What most needs to be made clear is that this type of Protestantism was a return to the Augustinian tradition in which the relation between the individual soul and God is all that matters. This relationship has too often been taken as a purely intelligible affair to the exclusion of the senses. In this regard, Puritanism was what we might call a religion of the "ear," i.e., the *hearing* and *understanding* of the Word and of doctrine—hence the profusion of great Puritan preachers—and not a religion of the "eye," i.e., the *seeing* of the sensuous aspect of the world and the physical passion of Christ. Medieval Christianity was aesthetic, even lush, as compared with the main line of Protestantism, but this has more to do with the latter's uncompromising *religious* and *moral* emphasis than with any "puritanical" temper and all that the term connotes. Bernard, no less than Augustine, feared *adornment* in any form as distracting and unnecessary for religion, and Puritanism followed after them. Puritanism reduced poetry to rhetoric, which is precisely what must happen when poetry is denied autonomy while the imagination is left standing. And Puritanism denied such autonomy to poetry because of the seriousness with which it subordinated all to the religious question, What is my ultimate destiny? This concern drove Protestantism either to deny the artistic aspect of life altogether, or to reduce it to the status of a means in the service of religion and morality.

The reduction of poetry to rhetoric, however, must not be taken to mean that Puritanism denied to the senses all power of expressing religious insight. Haller's "The Rhetoric of the

Spirit" in his *Rise of Puritanism* (a volume used to good advantage by Martz) shows that Puritan pulpit rhetoric was "an intensely imaginative hortatory prose,"³ and that what was most feared by the Puritans was "vain rhetoric" or poetic adornment beyond what was "necessary" for the communication of the divine word to the individual soul in a powerful and penetrating way. Nor is it correct to say, as Martz does quietly and Ross more polemically, that the disparagement of sense in Puritanism is due to rejection of the doctrine of Transubstantiation, or the Roman Catholic interpretation of the "real presence" in the Mass. Both writers are correct in holding that Calvinistic thought (the point does not apply to Luther) tragically underestimated the capacity of the natural world to bear or express the signature of God, but the issue must not be confused as it is by both Martz and Ross when they write as if the idea of Transubstantiation were simply an extension of the theological doctrine of Incarnation. There is no necessary connection between the doctrine of Incarnation and the particular interpretation placed by the Roman church upon the "presence" of Christ in the Eucharist. Both Luther and Calvin, for example, maintained the doctrine of Incarnation, Christ's appearance in history, but they rejected the metaphysical theory known as Transubstantiation purporting to explain how Christ is "present" in the continuing religious community.

There is a further aspect of the Puritan attitude towards the aesthetic which is not touched upon by Martz, and it is very important. The exclusively Biblical orientation of Protestantism led the Puritans to attempt the derivation of everything from the Bible. This meant, among other things, that they took the poetic

³ William Haller, *The Rise of Puritanism* (New York, 1938), p. 129. Compare the following from Haller: "Whatever contributed to edification was but a means of preaching naked Christ. Whatever did not was vanity. The primary objection to metaphysical wit, learned allusions, tags of Greek and Latin, snatches from the heathen poets and philosophers, and all figures of speech depending upon recondite knowledge was that many members of the audience were sure to miss the point. The Puritan preacher was quite prepared to use anything he knew as a means to his end, but the end was to make everybody feel the force and reality of what he was saying." See Martz, p. 283.

and rhetorical form of the Biblical writings as normative. A sharp distinction was drawn between "human" symbolism and the symbolism "of God" as expressed in the word of the Holy Spirit. Calvin brings this out very clearly when he defends himself against the charge of being a "mere Tropologist"; he distinguishes between the "symbols invented by man" and the "symbols instituted by God," * and he rests his own case upon the validity of the latter. Sometimes this opposition between the two types of symbols and the elevation of the divine over the human poetic and rhetoric has been interpreted to mean that Puritanism rejected art and the aesthetic generally. What Puritanism did was to adopt a too narrowly Biblical perspective and from this standpoint judge all human attempts at creativity as superfluous, as an arrogant attempt to improve upon the divine form of communication. What need is there, they argued, for human adornment of the Word, when the Holy Spirit has already made plain in the Bible itself the type and extent of metaphorical expression appropriate to the divine revelation?

Behind this exaltation of the Scriptures at the expense of everything human was a much deeper motive in Protestantism and it is one which affected the further development of English poetry not only in the later 17th century, but in the two succeeding centuries as well. Along with suspicion of human wit and ingenuity Protestantism had a certain suspicion of secular *culture* itself. Culture, it was thought, tends to the glory of man; the development of the fine arts may distract men from what should be their chief concern—the divine *gloria* and the salvation of the soul. Such an outlook forbids an autonomous aesthetic; what aesthetic there is must be wholly in the service of religion. This point of view explains why poetry and theology are virtually indistinguishable in Milton, for example, and why critics are "pro" or "con" in his case mostly upon the basis of their convictions about his theology; this is something which is not true for Donne. For Puritanism the images and signs of religion and the doctrines of theology are no longer "material" for the poetic sensibility; on

* *Institutes*, IV, xvii, xxi.

the contrary poetry and rhetoric become means for the communication of theology.

As was indicated above, the present discussion of *The Poetry of Meditation* represents an oblique treatment, directing attention to certain underlying issues and away from the main historical thesis. This has been done in the conviction that these issues are not likely to receive the emphasis they deserve at the hands of literary critics and historians. The strength of Martz's monumental study lies in the detailed analysis of the poetry itself and particularly in the success with which he makes metaphysical poetry intelligible by setting it against the background of religious meditation. No one else has probed so deeply or done so sustained a piece of work along these lines. Unfortunately the work also exhibits an inadequate grasp of basic theological conceptions and too complete a confidence in the interpretative power of simple contrasts. It will no doubt be some time before the full impact of this exhaustive volume becomes apparent, but it is certain that study of these poets and of the issues raised by their works will be permanently affected by Martz's work.

In *Poetry and Dogma*, Ross attempts to attack more directly the theological issues between Roman, Anglican and Protestant as they bear upon the poetic situation in England during much the same period as that treated by Martz. Consequently, Ross's work is long on theological and philosophical interpretation and somewhat short on poetic criticism. In this regard his work exactly reverses the emphasis in Martz, and, it must be added, it has none of the first hand documentation which makes Martz's study significant.

The central thesis of *Poetry and Dogma* is that poetry, particularly that written within a Christian framework, can be successful as poetry only to the extent to which it can presuppose what the author calls a certain "firmament of symbol," i.e., a theological standpoint in accordance with which the finite and created things can be taken as valid symbols of the uncreated God. Ross's main contention is that English religious poetry suffered a mortal blow when Protestant theology rejected the doctrine of Transubstantiation, denied the "real presence," and allegedly cut off the created world so that it could no longer be a valid bearer of

the divine meaning. On his view Roman (or Anglican?) Christianity maintains a theology in which symbols have an "ontological reach" (p. 16), whereas Protestantism is all "subjective" in its interpretation; it is this subjectivism which led to the decline of significant Christian poetry in the period following Herbert.

Ross starts with the position that every defensible aesthetic must include the view that the world of sense, of symbol and metaphor, must have a foundation in reality, i.e., that it must validly express a reality beyond itself. He then asks what particular dogmas must be maintained and emphasized in order that an aesthetic may be possible within which poetry of Christian stature can be written. Ross does not expound his thesis in exactly this way because he seems unaware of the extent to which the content of Christianity is made by him to depend upon the demands of aesthetic. He does not ask what aesthetic standpoint is possible within the basic Christian world view, but asks instead what Christian doctrines must be singled out and what interpretation must be placed upon them in order that the poetic symbol may be guaranteed ontological standing. As compared with the position he accepts, Ross finds the Puritan or Protestant position so filled with an unqualified individualism, subjectivism and psychologism that the ultimate referents of the symbols disappear and genuine Christian poetry is made an impossibility.

Ross's ingenious method of refutation by comparison leaves his thesis dependent for success upon the accuracy with which the non-Anglican position is stated. And this is precisely where the book is weakest. Instead of considering in detail the pronouncements of Luther and Calvin on the nature of the Sacrament and the status of symbols, Ross chooses to rely upon two Anglican interpreters, Dix and Messenger, for the presentation of the Reformation position. The dubiousness of reliance upon Messenger's *The Reformation, the Mass and the Priesthood* can be seen from the fact that in his exposition of the meaning of the Mass no more than 15 pages out of a total exceeding 500 in the first volume alone are given over to what the Bible has to say on the

institution of the Lord's Supper.⁵ Considering that the whole of Calvin's long 17th chapter, the *locus classicus* of Puritan doctrine on the subject of the Lord's Supper, is based upon the Bible alone, except for a few quotations from the writings of Augustine, it is not difficult to see that Ross's presentation of the Protestant position is inadequate.

The whole subject of the Eucharist and the controversies about it are entirely too involved to be considered here, but several points of importance can be raised. In the first place, Ross does not discuss the all-important issue whether the "real presence," whatever that is finally to mean, must mean "attached to the bread" in the sense asserted in the Transubstantiation formula. This is precisely the point raised by Calvin and it is crucial.⁶ Ross, following a great many others to be sure, simply assumes dogmatically that there is no "real" participation of Christ in the Supper unless such participation is in this form. But this is precisely the point at issue and it is surely a poor way to argue to assume a position and then condemn as erroneous another position merely on the ground that it differs from the position dogmatically asserted. The problem, as Calvin was well aware, is to grasp exactly how Christ can be "represented"⁷ in the Supper, and it

⁵ Ross specifically acknowledges (p. xi) his indebtedness to Messenger, and the extent of the dependence can be seen in that he reproduces slips made by Messenger as well; on p. 29, n. 5, the Irenaeus citation is *Adv. Haeres.*, IV, xviii, 5, not viii as in the text and in Messenger. Incidentally, note 2 on the same page should be "I Cor.," etc.

⁶ *Institutes*, IV, xvii, xxxi.

⁷ A thorough treatment would, of course, deal with the question of the meaning of "repraesentio" and its distinction from "praesentio" (see pp. 30 ff.). Ross seems not to understand that, whatever the two terms mean, they cannot have the same connotation, i.e., "praesentio" in this context means the appearance of Christ in the spatio-temporal world in his earthly life. "Repraesentio" means some later manifestation, for example in the Communion, of Christ, such that at any time later than the earthly life Christ can be said to be "represented." The important point is that the sense attached to "praesentio" in the compound "repraesentio" cannot be the same sense which "praesentio" has when it means the earthly, historical appearance of the Christ. Nothing can be represented unless it has first appeared, i.e., been presented. If the sense of "praesentio" were the same in both cases, there would be no need for "elements" of representation, indeed there would be no need for representation

will not do simply to assume that the theory of substance and accidents is the only solution to that problem.

Unfortunately, I cannot give the attention I should like to the dubious distinction, maintained by Ross throughout his discussion, between the "dogmatic" and "conceptual" levels of the sacramental symbol (see pp. 31 f.; cf. p. 232). This distinction is dubious because the initial dogmatic formulation is itself already a conceptualization and, moreover, the idea that there is some unformulated view on a given theological topic called "dogma" such that when a given theologian discusses this "dogma" his assertion simply represents a "conceptualization" of it, is a myth. There can be no doubt that there are theological *themes* upon which there can certainly be variations, e.g., topics like creation, eternal life, atonement, etc., but these themes can be considered only when they have been conceptualized or formulated; there is no such thing as a pure dogma to be distinguished from its interpretations or formulations. The distinction, like that in Aquinas between implicit and explicit, is intended to make it possible for two thinkers to mean different things while at the same time continuing to exist validly within one and the same "dogmatic" tradition. The difference between the Augustinian formulation offered by Ross on p. 32 and the formulation from the *Catholic Encyclopedia* with which he compares it is not merely a difference in "conceptualization." To be sure both statements concern the same theological topic, but what and where is the "dogma" of which both are supposed to be "conceptualizations"?

If, of course, Ross means by "dogma" an ecclesiastical formula

at all, for in that case representation would simply mean "is present" and Christ would still be living his earthly life, which is absurd. Moreover, the issue between the Roman church and the Reformation position is not whether Christ "participates" in the Supper (the term "really" adds nothing here which is not question begging), but how and in what form the participation takes place. The Roman and Anglican contention is that unless the participation is of the form they describe in Transubstantiation there is no "real" participation. This, of course, is exactly what begs the question. I very much doubt that Ross is correct in interpreting the obscure passage from Tertullian's *Ad Marc.*, iv, 25 (ANF III, p. 390b) so as to make "repraesentio" mean "physical presence" when the term always has the connotation of "be a surrogate for" or "stand for."

such as those contained in the Canons of Trent, this would be a legitimate usage as long as it is recognized that such dogma is itself a conceptualization and differs from a pronouncement by Augustine, for example, not in any logical sense but only in the sense that as a dogma it represents the result of ecclesiastical decision and is normative for the whole church, whereas the views of Augustine are simply those of a single individual. The situation is further confused when we are told (p. 33) that the Fourth Lateran Council formulation of Transubstantiation—surely a dogma if there are any dogmas at all—is a "synthesis" of the Augustinian and "realist" formulations or "conceptualizations." I find this all very puzzling.

Central to Ross's whole attack upon Protestant thought for contributing to the dissolution of the symbolic cosmos is the charge of "subjectivism" and "individualism" (Ross uses the two terms virtually as synonyms); he thinks that when Protestantism speaks of the Holy Spirit and of faith as dwelling in the heart of the individual that this must be understood in a purely "psychological," i.e., subjective, sense. No argument whatever is offered to support his contention that the Protestant doctrine of Holy Spirit reduces everything to individual states of mind. Time and again Ross simply assumes that faith, a cornerstone of the Biblical picture of the Christian life, is "merely psychological" in contrast to the "real" objective transactions presumably taking place within the firmament of the Anglican communion. The chief error of those who believe they are defending a return to "ontological foundations" is to suppose that to be ontological is the same as being "realistic" in the metaphysical sense of the term, whereas realism is only one ontological position among others. It apparently never occurred to Ross to ask this question: What is the evidence for the belief that when Augustine or Bonaventura retired into the "inner chambers of their minds" to recover the presence of the Uncreated Light they found something "objective," whereas when Calvin or Baxter (who are both Augustinians in this regard) do the same thing they are simply engaged in a thorough subjectivism? Unfortunately, all the arguments which might convict Protestantism of subjectivism will also destroy the validity of the Augustinian position itself. Nor will it do to say that

Augustine was thinking within the "Catholic" symbolic firmament which we know to be *bene fundata* while Calvin and the other reformers were not, for once again this is just the point at issue. One thing is clear: the ultimate status of symbols in a comprehensive view of reality is a question which requires a thoroughly analytical and metaphysical treatment; it cannot be settled by appeal to historical authorities.

The central issue for a religiously oriented aesthetic concerns the status accorded to the religious symbol and its precise relation to what it symbolizes. Ross's view is that in the Roman tradition the symbol allows for the "real presence" of what is symbolized, while Protestantism denies this and makes the meaning of the symbol dependent upon the psychological constitution of the participating individual. This view, as I have suggested, is entirely too simple and its inadequacy can best be seen if we examine more carefully the conditions of the sacramental situation.

The only sound basis for a symbol is the *structural identity* between the material of the symbol *in its intrinsic nature* and the meaning to be expressed. Thus the water is used in the sacrament of Baptism because of its own inherent structure in virtue of which it functions as a cleansing agent. This position we may call "high" symbolic ground because it places all the emphasis upon structures which transcend the interpreting mind. But this position is exceedingly difficult to maintain because, among other reasons, all religious symbols stand in need of "institution," i.e., they must be fixed in relation to a community of individual believers at a definite historical time. The institution of a symbol, however, modifies the relation between the symbol and what it symbolizes, making it *dependent to a certain extent upon* the conditions of institution, whether in the form of the particular time at which it is done, the particular polity of a church, or the disposition of the individual believer. Regardless of the particular condition in question, the actual institution of a religious symbol causes the symbol to depend, at least in part, upon something *other than* the intrinsic nature of the symbolic material.

The Roman and Protestant traditions are not so far apart as regards the conditioning of the symbol, whereas they are poles apart as regards the particular condition emphasized.

In the Roman Mass, the connection between Christ and the elements is ultimately dependent upon *ecclesiastical fiat* in the sense that, without the miraculous act of the priest as an official member of the sacred hierarchy, no "transubstantiation" takes place. Thus it is not solely in virtue of the intrinsic nature of the material and its capacity to function as a symbol that the "real presence" is communicated; on the contrary, the material object must receive its capacity to be a symbol, its sacramental power, from the consecration by the priest. The ecclesiastical institution thus becomes a condition which guarantees the "ontological reach" of the symbol. It is as if the bell which tolls in the Mass tolls for God, as an announcement that once again the church, through an official representative, summons Him to exchange the substance while leaving the accidents unchanged.

In Calvin, it is the response of the individual in faith to the hearing of the word which furnishes the circumstantial condition over and above the symbolic capacity inherent in the nature of the symbolic material itself. Calvin,¹ no less than Augustine, believed in the capacity of the physical elements to bear the divine. For him the corporeal elements, in virtue of their own intrinsic natures, have symbolic capacity, but this alone is not sufficient for the sacrament. The *faith* of the individual is necessary for the apprehension and appropriation of Christ in the Supper. "If the language of Augustine be preferred," says Calvin, "I deny that men carry away from the sacrament any more than they collect in the vessel of faith."² This means that *faith* is a *necessary* condition for participation in the Supper, but it is not a *sufficient* condition, nor is it faith but rather Christ present as the Holy Spirit that is the reality of the sacrament. The physical elements of *themselves alone* are not adequate, but something more is required; here, instead of the instituting condition being a function of the church, it is a function of the response of the individual believer. The "real presence" of the object signified by the symbol is effected by the Spirit and neither Augustine nor Calvin had any speculative theory intended to explain what occurs in the so-called "objective" situa-

¹ *Institutes*, IV, xvii, iii.

² *Institutes*, IV, xvii, xxxiii.

tion apart from the believing individual. For Calvin there is, as he says, no "kind of magical incantation" which produces the referent of the symbol quite apart from the faithful response of the believer.

Both Catholic and Protestant positions are forced to interpolate a human condition between the intrinsic nature of the material element and its capacity to function as a valid symbol with "ontological reach." In the Roman tradition it is the authority of the ecclesiastical institution; in Protestantism it is the hearing of the word and the response in faith to the divine promises. The fact remains, however, that with Protestantism the doctrine of the Spirit comes into the foreground and gives to religion an inward reflective turn and to theology a rationalistic emphasis. The result is the directing of attention away from the objects of sense and the denial of aesthetic autonomy. The Roman tradition, in contrast, retains greater respect for the independence of the sensible world and for the esthetic aspect of life and experience.

What is called for is an analysis of the effect on English poetry (and of poetic symbolism in general) of the introduction into the religious consciousness of the intensely personal response characteristic of Protestantism. What happens to poetry when the aesthetic or dramatic display intended to stimulate sight, taste and smell is forced out of the center of religion and is replaced by the hearing and comprehending of the word and by the interior response in faith? This question brings us back again to the contrast between the "ear" and the "eye." What influence did the shift over to the "ear" in Protestantism have upon the poetic sensibility of the 17th century? Serious discussion of this question cannot be carried on successfully by those who refuse to set forth with equal care both strains of spirituality. Ross's treatment serves to call attention to the problems to be faced, but it is too one-sided to be finally successful.

Our third document, *Spiritual Problems in Contemporary Literature*, is important and instructive for several reasons. First, it contains papers by a number of thoughtful writers who are either themselves engaged in the writing of poetry, novels or plays, or who are critics of the literary arts. Secondly, it is based

upon the recognition that contemporary life faces questions which are basically moral, and religious questions of perennial difficulty; and third, the writers all recognize the deep involvement of a vital artistic tradition in these problems at the same time they are aware that art stands in a peculiar relation to religion and to morality, such that to be involved too deeply with them may mean the death of art. Many writers see the artist's dilemma as one in which profundity in art means analyzing, diagnosing and seeking to remedy the spiritual ills of our period, while at the same time continuing to be loyal to art as something which, as one writer says, "is neither religion nor social engineering" (p. 128).

Particularly significant is the paper contributed by Cleanth Brooks, "Metaphor and the Function of Criticism." By singling out metaphor as the essential feature of poetry, Brooks aims at establishing it as an autonomous medium capable of reflecting the world and experience validly in its own right, so that poetry is freed from the servile role of having to express in "rhetorical garb" truth gleaned from non-poetic sources. The most important single point made by Brooks, and it is all the more potent because of the calm, clear way in which it is made, is that those critics—including the "new"—who have been most inclined to stress the importance of religion in their criticism have also been the ones most anxious to defend the autonomy of poetry. The reason for this, although the author does not pursue this line of thought, is that if the critic and the poet have a religious perspective in addition to their criticism and their poetry, they are freed from the necessity of making a religion out of either. It is only the man who is devoid of any genuine self-critical religion who goes about making a religion out of everything which engages him in a more than superficial way.

The essay by Denys de Rougemont on "Religion and the Mission of the Artist" is very penetrating. Not only does it offer a suggestive theory of art as an "oriented trap" (p. 176) leading man to meditate upon himself and his destiny, but it contains as well a justified attack upon various modern devices which subvert art by driving the artist into a too-conscious effort to "create beauty." The mission of the artist, we learn from De Rougemont,

is to be wary of the entire idea of his having a "mission." The genuine artist is one so engaged in coping with the basic questions of human life and value that he must keep his attention focussed upon them if his creative work is to command the attention of those who read his books and see his paintings. Over and above this engagement, the artist has no time to have a "mission."

Also of importance are the essay by David Daiches, "Theodicy, Poetry and Tradition," which should be of special interest to philosophers because it seeks to distinguish "*literary answers*" from philosophical solutions to speculative questions (see pp. 74 f. esp.); the fine essay by William Barrett on Existentialism; the papers by Wallace Fowlie and Amos Wilder on Catholic and Protestant orientation in current literature; and the paper by Emile Caillet, "The Literary Mind and Religious Responsibility."

The most comprehensive framework within which the general themes of all three books can be placed is a theory of the relation between religion and culture. When we ask for the connection between religion and any of the creative arts, we at the same time involve ourselves in the wider question of the attitude adopted by the religious tradition towards human culture and the development of man's creative capacity. Two opposed interpretations of this relationship have maintained themselves throughout the history of Christianity. At one pole stands a general suspicion of culture and the development of human artistic and aesthetic capacities. This attitude can be traced back to the Old Testament period where Hebraic religion expressed its distrust of human artifice as a dangerous prelude to the undue exaltation of man and the consequent diminution of the divine majesty. Moreover, this general cast of mind sees art as an unnecessary distraction, or at least as a temptation, causing man to forget that he is a stranger and a pilgrim in the earth, and that his main concern should be for the salvation of his soul and the glory of God. When unqualified and unchecked, this type of religion leads to an extreme moralism which virtually eliminates the aesthetic.

At the opposite pole stands the view that the development of human capacities to form that complex of individuals, institutions and their relations which we call culture is *not* opposed to the glory of God or to the salvation of man. The culture-affirming

type of religion is anxious that the arts should flourish, although it frequently attempts to minimize the risks accompanying any development of man's artistic nature, not by destroying the aesthetic but by seeking to bring it wholly within the influence of the church. In a sense this results in a loss of autonomy, but it does not mean either the complete suppression or total elimination of art.

Whereas medieval Christianity stood in what we may call the culture-affirming tradition, Protestantism has tended to be more moralistic in its emphasis and to stress the possibilities of human pride inherent in high human cultivation. Both positions are, however, paradoxical in the sense that the Roman tradition has maintained in its official theology a sharp distinction between "natural" and "supernatural," while Protestantism, in the works of the reformers, denied the separating off of any part or aspect of life from other parts as "holy" or "supernatural," on the ground that the *whole* creation stands *equally* under the judgment of God. To be "religious" in the medieval period meant being a member of a religious order and not being engaged in "secular" activity after the fashion of the "world." The Protestant reformers, on the other hand, vigorously maintained the doctrine of *vocation* according to which religion is a matter of the consecration with which "worldly" tasks are seen as the "call" of God and discharged in a worshipful manner. Despite these respective backgrounds, Protestantism has most often denied the continuity between religion and culture, thus forcing art out of religion, while the Roman tradition has kept the aesthetic dimension alive and nurtured it. A thoughtful reader will want to consider the studies of Martz and Ross, and the essays edited by Hopper, against the background of this most important and perplexing problem in the philosophy of religion—the relation of religion to culture.

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CRITICISM CUBED
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ART criticism is often criticized. Here is a criticism of a criticism of criticism.

Unhappily, most writers who seek to relieve the present "dreary" situation in aesthetics offer us either verbal pettifogging or nineteenth century "systems." We are, therefore, indebted to Harold Osborne for publishing a brave, bold, wise, and defective book in the field.¹ Despite their defects, these essays clarify some important issues in important ways. They deserve the serious attention of everyone seriously interested in art.

Mr. Osborne seeks to examine the "philosophical presuppositions"—by this he seems to mean "value commitments" and not much more—underlying various current critical writings, to assess these commitments in terms of their adequacy to the problem of judgment, to make explicit theories of art usually left implicit, and to propose a pattern of criticism based upon his own earlier *Theory of Beauty* (1952). He reveals a sophisticated, intelligent and highly literate mind at work on some exceedingly difficult problems, without losing the touch of common-sense intimacy with actual works of art.

Chapter I, "The Craft of Criticism," is a lively, level-headed overview of the problem, admirable in almost every way. Among other points well taken, the sham of contemporary "descriptive" or "non-judicial" criticism is effectively exposed. As Osborne correctly asserts and convincingly demonstrates (pp. 17-19), critical adjudication is inevitable.

Chapter II, "Apologia for Aesthetics," argues the necessity for theory in support of critical judgments; ". . . aesthetics has suffered too much from premature speculation about the cosmic significance of beauty before anyone has understood what we mean

¹ Harold Osborne, *Aesthetics and Criticism* (New York: Philosophical Library, 1955).

when we talk about beauty or what criteria we may use to detect it" (p. 26).

Chapter III, "Illusionism," sketches the history of "imitation theory," and leaves this reader with many deep doubts about Mr. Osborne's historical interpretations (e.g., "Throughout the Middle Ages the aesthetic consciousness lay crushed and dormant in all Christendom" [p. 54]; see also the remark on Socrates [p. 320]). There are chapters on "Realism," (containing the doctrine that the "willing suspension of disbelief" is "the foundation of every aesthetic act" [p. 67], an interesting but occasionally inaccurate *rappor*t established between semantic interpretations of art and "realism," a flat critical misreading of Susanne Langer [p. 108], and a curious presentation of I. A. Richards' position [p. 97 *et seq.*] ; "Hieratic Hedonism"; "Expression" (in which is contained, *inter alia*, this sound observation: ". . . to erect [sincerity] into a principle of criticism, to use it as a touchstone for assessing the excellence of literature . . . is to be both illogical and impractical. It is one of the more pernicious results of the false pre-occupation of modern criticism with psychology. Sincerity is relevant only to the study of the psychology of artistic creation, not to the valuation of works of art" [p. 153]) ; and "Transcendentalism." Each of the positions discussed in these chapters is expounded, weighed and found wanting. Osborne's own "Beauty as Configuration" finally provides us with the true position, and we see it applied in "Anatomy of Literature" (Chapter X) and "Anatomy of Criticism" (Chapter XI).

Mr. Osborne's general approach is traditional, and bears the strength and the battle-scarred weaknesses of the grand tradition; it is somewhat old-fashioned, in both the good and the bad senses of that term. ". . . Denotation implies connotation, and it is the first task of aesthetics to specify the connotation of the term 'work of art' by mentioning the attributes in virtue of which this term is applied to some artifacts and not to others" (p. 44). This is a frank commitment to the historic belief that whenever a term is used to cover a group of objects, that group of objects must in fact share some common characteristics, so that if we but mention these characteristics, we shall have arrived at the real definition of that term. I do not share this belief. I believe, rather, that the

term "work of art" is used in many different ways and that, most likely, there is no unique set of attributes shared by all objects to which that term is applied.

In arguing the indispensability of aesthetics to art criticism, Mr. Osborne asserts: "No man can be sure of writing well if he does not know what it is about which he writes, and the critic is no superman. Unless he knows what is and what is not a work of art, by what criterion a work of art is to be recognized, he has no standard of relevance; he will be at cross-purposes with himself, like a man who is set to match colours in the dark . . ." (p. 40). Remembering that the definition of "work of art" is, for Osborne, also a criterion of value,² we must ask what kind of "knowledge" is being required here. That theory of art has a relevance to criticism is granted. But it does not follow that the practicing critic must have a complete aesthetic, including a set of polished, rational criteria, in order to judge the value of a work of art. Although I must be able in practice to distinguish eggs from things which are not eggs, in order to tell rotten eggs from fresh ones, it does not follow that I must also know the biology of chickens, or the chemistry of hydrogen sulfide. I can, simply and without failure of communication, tell my friends that a given egg stinks. Of course, no man can ever be sure of writing well, no matter what he knows; but there is a level of significant discrimination achieved by many sensitive critics without the doubtful aid of aesthetic theory.

As usual, the negatively critical chapters are more persuasive than is the positively constructive one, especially considering the necessary conciseness of this work. We turn to this central doctrine, presented in Chapter IX. I summarize the position in a series of theses, with comments as I go.

1. ". . . A work of art in its essence is not a means for the communication of experience from man to man but a newly created thing which exists primarily to be experienced for what it is in

² ". . . The characteristics by the possession of which any artifact is named a work of art are the same characteristics in virtue of which, according as they are present in greater or less degree, any work of art is correctly judged to be better or worse than another" (p. 43).

itself. Every work of art is an invention . . . Art is not an expression of life but an addition to life and life's enrichment . . . it has nothing to do with the excellence of a work of art whether it represents, expresses or arouses emotions . . ." (pp. 218-19). While not new, this is true. It is also important, and still needs to be said.

2. "We have no inclination for the vapid doctrine of 'art for art's sake' and it is not an implication of the theory which we shall expound in this chapter" (p. 219). Again, bravo! Osborne clearly and consistently maintains the autonomy of the work of art without falling into the hopelessness of isolation. Theorists have too often succumbed to the supposed dilemma: to abandon the peculiarly artistic values by reducing them to psychological, sociological or moral values; or to sever all connection between art and life by demanding that a work be useless to be beautiful. This is simply a false dichotomy. Osborne cordially confesses that there are many other values beside artistic ones, and that works of art may be valued (or disvalued) for numberless reasons.

3. "Beauty is a coefficient of formal structure" (p. 225). Unfortunately but typically, "form" (with its posited synonyms, "structure" and "configuration") is defined only negatively as an abstract property independent of sentiment, feeling or representation. Osborne associates his view with those of historians like Wölfflin and Focillon, and of critics like Fry. He approves critical citations of "composition," "rhythm" and "line," rather than romantic-expression or classic-representation languages.

So far, so good. Within its limits, this is sound. Especially refreshing is Osborne's aside, referring to a critical passage using terms like "audacious rhythm" and "monumental power": "This sort of writing may not tell much, and may show obvious symptoms of developing a new jargon of obfuscation, but at least it tells something about the picture *as a picture*" (p. 225).

We may second both the aside and the assertion, but we cannot forbear remarking that the limits above referred to are a bit narrow. Mr. Osborne is not signally successful in solving the really critical problem: how to enrich the concept of "form" to go beyond decorative geometry in painting and music in poetry,

without losing its aesthetic purity. One suggestion worth at least some consideration is that the extra-aesthetic object with which the artist begins—his model, his historical anecdote, his skylark—once conceived creatively or aesthetically by the artist, is transformed into a new kind of object: a pictorial woman, a poetic skylark. The painting is not mere geometry, any more than the lyric poem is mere music. The painting is not a formal map of the real woman's anatomy, any more than the poem is a formal treatise on ornithology. But, unless we see the presented form of the newly created pictorial woman, we have not seen the painting's form, just as, lacking the poetic skylark, we miss the poem's form.

No novelty is claimed for this suggestion; many men have offered it. But it does seem that the theorist must extend his use of "form" in some such way, at pain of trivializing the work. There is no secret in the fact that every work can be talked about in many different languages. Everyone agrees that some of these languages are inappropriate when our aim is to draw attention to those characteristics of the object which we wish to designate as "artistic." We should agree that some languages (like those of "form"), even though indisputably appropriate, are equally indisputably inadequate, unless "form" be somehow enriched beyond "surface in the thin sense." Prall knew this, and attempted the enrichment.

Implicitly, Osborne knows this too; the entire tenor of his sensible writing about literature shows that he has a good working grasp of the poetic object. Explicitly, he argues at even greater length than necessary to prove the impossibility of a merely musical notion of poetry, and the absurdity of a "scientific-truth" interpretation. My regret is only that he seems never to have made theoretically explicit the complex relation which he accurately senses.

4. "The kind of configuration which constitutes artistic excellence in any mode of art is the configuration which is known as 'organic unity.' An organic unity [is] defined as 'a configuration such that the configuration itself is prior in awareness to its component parts and their relations according to discursive

and additive principles.' The quality of being an organic unity may be possessed by any construct in a greater or less degree and it is this quality which constitutes the beauty or proper excellence of all works of art Any construct which enters into awareness as an organic unity is apprehended 'synoptically' as a single complex whole of multifarious and intricately related parts" (p. 228). Claiming support from the Gestalt psychologists, Mr. Osborne proceeds to characterize "organic wholes" in art in a manner importantly different from that of a popular misconception of the term. It does seem to be commonly thought that an organic whole is one which would be destroyed upon any alteration in its parts. Mr. Osborne correctly points out (pp. 241-43) that works of art do not possess this kind of unity at all; on the contrary, they are wholes which possess a remarkable stability, and consequent resistance to change; this seems to be an important aspect of their "organicity."

Here is the outline of a theory of art. The theory was presented in Osborne's *Theory of Beauty*, and it would be inappropriate to enter upon any extended critical analysis in this context. It is plain that very much more explanation and defense is needed than Osborne can present in a few pages.

Suppose, for the moment, that this theory could be made out in these terms. It has been claimed throughout the book that the long-sought definition of "beauty" should provide us not merely with an explicit characterization of the conditions necessary and sufficient for classing a work as a work of art, but also with a criterion of value which could be applied in practical criticism.

In the thesis quoted, the degree to which a construct possesses organic unity is presented as the criterion. Construct A, which is organically more unified than construct B, is therefore more valuable artistically than is construct B. The obvious unclarity remaining is this: we are not told the dimensions along which the degree in question is to be determined. Are we to suppose that, other things being equal, a work which unifies a large mass of material is more beautiful than is one which organizes only a relatively limited range of materials? Or how are we to determine the degree of success in achieving "organic unity"?

Careful reading reveals that Mr. Osborne does make a crucial distinction between "being valuable" and "being valued," and he answers the two questions: "For what reasons is a work valuable?" and "For what reasons is a work valued?" differently, implicitly recognizing that the first is an aesthetic question, and the second a psychological one. Unhappily, he does not, it seems to me, quite accurately maintain his distinction.

5. "Such synoptic apprehension demands a heightening and tautening of awareness—visual, aural or intellective—far beyond the normal needs of practical life. Only works of art can demand or provide the material for such intense awareness and their apprehension in appreciation causes that heightening of consciousness, that enhancement of mental vitality This is why the experience of beauty is valued. It is valued because it makes us more vividly alive than we otherwise know how to be" (pp. 228-29). Here, one must frankly confess downright discouragement. After proclaiming so boldly the independence of the work of art from its effects, and urging us to examine the work intrinsically, in terms of its "form"; after arguing persuasively against evocative and expressionist theories of art, Mr. Osborne offers as his climactic explanation of artistic evaluation the "heightening and tautening" of awareness. It is, presumably, good that we spectators should be highly and tautly aware. A work which makes us so is therefore recognized as a good work.

It appears that analogues of the very arguments which Mr. Osborne so acutely raises against other theories which interpret the value of art in terms of its effects bear equally against his own. What guarantee is there, for example (to use one of Mr. Osborne's own arguments) that the work which will taunt your awareness will also taunt mine? Does this not reduce the ultimate criterion of evaluation—though not of value—to the same subjectivity so often rejected earlier in the book as critically hopeless? Or, failing this, does it not presuppose a dubious Kantian congruence of response? To value a work because it makes one tautly aware is to use the work as a "utility-object," rather than to apprehend it as a work of art—and thus to commit, once again, the old, old sin against which Mr. Osborne has so valiantly been inveighing.

It seems clear, in the light of these latter theses, that we have two definitive criteria, rather than one. Nor does there seem to be any logical relation between the two. Mr. Osborne requires of a good work of art that it be an organic unity, and (lest it be judged bad) also that it intensify awareness. But there is no a priori reason (unless this be made a mere matter of definition) to suppose that a work could not be an organic unity without significantly intensifying awareness, or that it could not intensify awareness without being particularly unified. Worse yet, it may even be that intensity of awareness is gained only at the expense of some unity, or the converse.

Is *Hamlet* an organic unity, by any other than a Pickwickian definition of that term? Is the *Iliad*, or the *Odyssey*? Are Max Beckmanns, or early Kandinskys? Does a Persian rug, a Grecian amphora, perfect in its way, really intensify awareness? Perhaps so, in a rarefied sense, but why need we suppose that either criterion or both must be universally applied throughout the realm of the fine arts? Why, for that matter—and here we reach the radical question for all such syncretic theories—is a healthy pluralism of criteria ruled out *ab initio*?

Theorists of criticism habitually confine their attention to what is deemed *good* in art, or to what is believed to have at least some value. They seek in the object characteristics which will justify the attribution of quality. Then, finding other works bad, they impute the badness to the lack of these characteristics. It is, I think, always salutary and frequently wise for critics to attend to what they deem poor, and honestly to test their views against trash. It is dismaying to find how many cheap popular songs exhibit something very like "organic unity," and heighten and tauten the awareness of sexually frustrated teen-agers.

I am prepared to argue that *Hamlet* contains more "loose ends" than any of dozens of "well made plays," and that *Hamlet* is a greater work of art than any of these. Given enough ingenuity, *Hamlet's* loose ends can perhaps be woven back into the structure of the play. But, alas, so can Edgar Guest's loose ends. Unity, in short, is a criterion appropriately applied in many contexts; but this does not make unity, organic or otherwise, the

ultimate supervening principle. The criterion remains at best ambiguous in the face of a putative work of art, and at worst it contradicts more fundamental critical intuitions of value or disvalue.

6. "When we speak of a work of art we refer to an enduring possibility of a specific set of perceptions. We say the work of art is actualized when somebody reads the poem adequately or when the piece of music is adequately performed to a competent audience" (pp. 230-31). Definitions of this sort—"solutions" to the so-called problem of the ontological status of the aesthetic object—have been multiplying during the past few years. They are, it seems to some of us, systematically defective in one of three ways. Simple definitions in terms of physical objects-events—the aesthetic painting is the physical painting—satisfy nobody. Class definitions—the music is some class of events or other—make it difficult to say that the artist created the work. Possibility definitions like Mr. Osborne's leave open the embarrassing reservation that no one has ever seen a painting, since it is evident that no one has ever seen an enduring possibility—or read one or heard one, for that matter.

Mr. Osborne will, of course, translate "I see the painting" into "The painting becomes actualized in my perceptions." He rescues his definition only by thus doing violence to the language. And proponents of other definitions, given equal opportunity to construct translation patterns, and equal liberty to violate usage, can rescue theirs equally well.

It no longer seems profitable to seek unexceptionable definitions of "the aesthetic object," quite possibly because there is no such unique class of things. Quite possibly, "object" is used in so many different ways that any general definition beyond a syntactical one is an invitation to linguistic muddlement. I see no reason to suppose that the expression "aesthetic object," allowed to cover paintings, poems, musical compositions and performances, dances danced or merely choreographed, and plays played or merely written, should be thought any more amenable to any single concise and clear formula.

7. "Intrinsic indefiniteness is a defect in a work of art and

organizational compactness is a large part, if not the whole, of what we mean by beauty . . . Definiteness . . . is manifested in the power of 'coercion,' which means that the definite work of art can be actualized in only one way by all competent observers" (p. 238). I respectfully submit that this is a perfectly legitimate statement of Mr. Osborne's aesthetic preferences. He has every right, personal and historical, to assert them. Many masterpieces have been magnificently "compact" and "definite." But I cannot grant the unlimited scope claimed by Mr. Osborne for his criterion. We must rule out in advance as illegitimate, though frequently used, the device of redefining "definiteness" so as to make "definite" those works which we deem valuable in spite of their apparent indefiniteness. We also gladly grant that indefiniteness may be presented with great definiteness. Nevertheless, there are a great many highly successful works of art which seem to lack the intrinsic definiteness which Mr. Osborne demands, and which even make a virtue of their ambiguity. The poetry of Donne and Yeats, the paintings of Turner and Braque, romantic music and, again, *Hamlet* are all cases in point.

8. "Literature we call any structure in language which is fine art. Its characteristic excellence is literary beauty. Language is composed from words, which are its material elements, as a house is built from bricks and an organism from living cells" (p. 260). At the very best, this is a desperately misleading passage. Even in a generous interpretation, I believe it to be a mistake. Some houses are indeed built with the use of bricks. Organisms grow by the addition or division of cells. Except in mathematics and Esperanto, languages are not composed or built at all. They (metaphorically) grow in use, as people adapt to environments; and they grow not as organisms are commonly believed to do, but rather more as tools are invented to do new jobs. To run such an analogy as Osborne's is to parlay a pun on "compose" beyond the limit of fruitful insight.

9. As a final thesis, here presented without comment, consider the following: "The object of the critic must be . . . to direct attention upon the parts in their functional capacity with a view to clarifying perception of each part, and each grouping of parts, as

parts of just that whole of which they are parts, inviting more vivid and alert apprehension of each part but at the same time displaying the nature of each part as moulded by its position within the whole" (p. 259).

In terms of literary style, Mr. Osborne's work is admirable. He writes with lucid accuracy, on the whole, and even occasionally turns a phrase with some distinction. It may appear to the causal reader as if Mr. Osborne's work is here considered seriously defective. In my judgment, it does contain defects. But the considerable merits of the work, inadequately indicated in these remarks, greatly outweigh its defects. Let it be recorded that this book, though certainly not the answer to all of our problems, is one of the very few recent contributions to the field which simply must be read.

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FACT, FICTION AND FORECAST

ARTHUR PAP

NELSON GOODMAN's second book,¹ which represents—excepting the first chapter, a reprint of the well-known paper, "The Problem of Counterfactual Conditionals"—the "Special Lectures in Philosophy" he delivered at the University of London in 1953, is small in volume but rich in content. There is a clear thread running through its four chapters: counterfactual conditionals (which in recent years have given such headaches to several analytic philosophers) speak about possible non-actual² events. But Goodman cannot accept talk about possible events or entities in good philosophical conscience; according to his "actualist" ontology, as we might call it, *there are no possibilities*, just as for a nominalist there are no classes and other abstract entities. To put it in the formal mode of speech: he wants to find a way of translating all modal talk into a non-modal language. Guided by this motivation, he proceeds to examine the distinction between "law-like" and "accidental" statements and, after an impressive display of analytical acumen, comes to the conclusion that the solution of this problem of explication is one with the solution of the problem of induction: what is the criterion of reasonableness of an inductive inference? How are warranted predictions to be distinguished from unwarranted ones?

There seem to me, however, to be serious flaws in Goodman's intricate chain of argument, which I wish to examine in some detail.

¹ Nelson Goodman, *Fact, Fiction and Forecast* (Cambridge: Harvard University Press, 1955.)

² When I use the clumsy expression "possible non-actual" instead of simply "possible," it is in recognition of that sense of "possible" in which any actuality is *a fortiori* a possibility: whatever is the case, is *at least* possible.

1. *Dispositions and Possibility.*

When we ascribe a disposition to a thing we assert, in a condensed way, a counterfactual conditional. To use one of Goodman's own examples: to say that x is inflammable is to say something like "if x were heated enough (under 'propitious' circumstances, such as the presence of oxygen), it would burn."³ Such a statement talks about *possible* events and is therefore a challenge to a philosopher like Goodman, who cannot countenance possibility, whether logical or causal, as a primitive concept. Goodman attempts to meet this challenge as follows: the *manifest* predicates (i.e., predicates designating *actual* events or states of a thing) "burns-when-heated" and "does-not-burn-when-heated" do not effect an exhaustive division of the class of things of which "being heated (at some time)" is significantly (i.e., truly or falsely) predicate; for short, let us call this class the "range" of "being heated (at some time)." For there are also things in the range of "being heated (at some time)" which are never heated at all and for this reason never burn. The function of the dispositional predicate "inflammable" is to fill this gap; in Goodman's terminology, it *projects* the manifest predicate "burns-when-heated" over those things in the range of "being heated" which are never heated: everything, of which it is significant to say that it is heated at some time, is either inflammable or not inflammable. It is important to understand, of course, that " x burns-when-heated" does not mean "if x is heated at t , then x burns at t " but "there is a time t such that x is heated at t and burns at t ." Now, Goodman argues, suppose we find a manifest property Q , i.e., a property whose analysis does not involve a causal "if-then"—and which is in this sense non-dispositional—such that all and only things which burn-when-heated have Q . Then we could define "inflammable" by " Q ."⁴

³ Goodman expresses the counterfactual conditional in the past tense, which is however inaccurate, since "inflammable" is not a tensed predicate.

⁴ I am here interpreting rather than paraphrasing Goodman's actual argument, because I cannot make sense of the latter as it stands. "If certain other manifest properties are somehow intimately connected with flexing, not merely casual accompaniments of it, exhibition of these prop-

Goodman is aware of the fact that this way of dispensing with (causal) possibility is a dodge, since the *Q* which is to be found should be *causally connected* with burning-when-heated; it must not be a property which is just accidentally coextensive with it. For example, suppose that all and only those things which burn-when-heated, i.e., which at some time are both heated and burn, happen to be in a certain limited part of the universe, or happen to be perceived by some animals (including humans) belonging to a certain class. Such properties would not do as definitia for dispositional predicates. Accordingly, Goodman reduces the problem of defining dispositional predicates in a language devoid of modal terms to the problem of defining in such a language the distinction between laws and accidental universals. But, suppose Goodman had succeeded in solving the latter problem so that he could in good philosophical conscience make a statement like "*Q* is coextensive *by law* with burning-when-heated." Would he then be justified in defining "inflammable" as meaning "*Q*"? It can easily be seen that he would not be so justified, and his belief that such a definition would be possible must have arisen from a fatal equivocation upon "burning-when-heated" (or "bending-under-suitable-pressure," his example of a manifest predicate which is projected by "flexible" over things that are not under suitable pressure). The relevant ambiguity is none other than "there is a time when *x* is both heated and burns" versus "for any time *t*, if *x* is heated at *t*, then *x* burns at *t*." For suppose that the following extensional equivalence holds: for

erties by a thing not under pressure [my italics] will be grounds for regarding the thing as flexible. In other words, we can define 'flexible' if we find an auxiliary manifest predicate, that is suitably related to 'flexes' through 'causal' principles or *laws*" (p. 48). Since according to Goodman's explicit statement the auxiliary manifest property *Q* may be possessed by a thing which does not "flex" (i.e., does not bend-under-pressure at any time), the form of the law connecting *Q* with flexing cannot be an equivalence; I assume it would assert only that all flexing things have *Q*, not that all things that have *Q* are flexing things. But, surely, from "all flexing things have *Q*" and "all flexing things are flexible," we cannot deduce any extensional connection between *Q* and flexibility. How then could the discovery of such a *Q* enable us to define "flexible" by a manifest predicate even in the weak sense of extensional equivalence?

every x , if and only if there is a time when x is both heated and burns, then x has property Q . This equivalence entails the following implication: if at no time x is heated, then x does not have Q . Now, if "inflammable" were definable as equivalent to " Q ," then "if at no time x is heated, then x is not inflammable" should likewise be true. But it may obviously be false. That a thing may have a disposition without manifesting it at any time is analytic of the meaning of "disposition" and presupposed by the very program of analysis that Goodman promised to carry out. If, on the other hand, "burning-when-heated" is taken in the conditional sense, then "if at no time x is heated, then x is not inflammable" is not deducible from the extensional equivalence together with the definition of "inflammable" in terms of " Q ," since "at no time is x heated" does not entail the negation of the lefthand side of the equivalence: "at no time is x heated" is compatible with "if x is heated at any time t , then x burns at t ." But on this interpretation the allegedly manifest predicate "burning-when-heated" is not manifest at all but is itself a dispositional predicate involving the modal "if-then" which Goodman wants to get rid of.

If this argument is valid, then Goodman has failed to show that reference to possible events, such as is implicit in dispositional talk and counterfactual conditionals, is a mere *façon de parler* that can in principle be dispensed with. I would like to make the same point in a different context. In section 4 of Chapter II ("The Passing of the Possible"—an impossible event?), Goodman addresses himself to the problem of "possible sense-data." Suppose that at a given phenomenal place p and a given phenomenal time t the color green occurs; in other words, suppose that the phenomenal place-time (p, t) is *actually* green. Now we might want to say that if a condition C , which did not exist, had existed, then the same place-time would have been blue instead. Again, then, we have a statement about a possible, non-actual event, but Goodman wants to show that such statements are translatable into a language which speaks only about *actual* events. And the translation, says Goodman, is quite easy: "To say that $p_i + t_i$ "

^{*} This symbol denotes the *sum* of the phenomenal place p_i and the phenomenal time t_i , which, according to Goodman's ontology, exists even

is actually green but is possibly (i.e., under circumstance C) blue is in effect to ascribe to $p_i + t_i$, in addition to the predicate 'green,' some such predicate as ' C -blueable.'" But unless I have completely misunderstood what Goodman is driving at, this is just naive: surely to say of $p_i + t_i$ that it is C -blueable is to say nothing else than that it *would* be blue if C were realized, and what is described by the antecedent of this counterfactual conditional is just a possible non-actual event. If Goodman replies that " C -blueable" is meant as a *primitive* predicate of a non-modal language, I would say that nobody could understand the meaning of this predicate except through translation into a modal metalanguage permitting the formulation of counterfactual conditionals.

Goodman is anxious to show how "statements affirming that certain possible so-and-sos are not actual so-and-sos may be reconciled with the doctrine that the only possible entities are actual ones" (p. 55). He wants to correct the Leibnizian conception (formalized, or semanticized, by Carnap) of the actual world "as one among possible worlds. We need to repaint that picture. All possible worlds lie within the actual one" (p. 56). But while the material (or ontological) mode of speech employed by Goodman suggests that there is here a conflict of ontologies, or of prejudices regarding "the ultimate furniture of the universe," I would go along with Carnap here in holding that nothing more than a choice of language is at stake. Consider a statement, ostensibly asserting the existence of non-actual possibles, like "there are possible non-actual crows that are white." I do not see what it can mean except the conjunction of "there are no crows that are white" with the modal statement "it is possible that there are white crows" (where the possibility in question is logical possibility). Similarly, if a philosopher says at a time later than t "there is a possible non-actual event designated by 'train-accident at time t in New York,'" what else could he mean but "no train-accident happened at t in New York, but it is possible that it might have happened, i.e., there is evidence relative to which such an event had some prob-

though the phenomenal place-time (p_i, t_i) may be a mere possibility, not an actuality.

ability"? Let us now take a further step. Suppose that the individual constants a, b, \dots, n of a certain language-system designate the actual ground-floor entities, i.e., those entities which Goodman can countenance in good philosophical conscience, whether they be physical things, physical events or sense-data, of the actual world. If we characterize these entities exhaustively in terms of a complete battery of primitive predicates ("complete" in the sense that for every simple property—assuming for the sake of the discussion that we know what "simple property" means—there is a primitive predicate designating it), we formulate, in Carnap's terminology, a state-description describing the actual world.* Next we contemplate possibilities. For example, in the space-time region designated by " a " we find the color green; but we can imagine a to be characterized by blueness instead. If this is the only imaginative change we make in the actual world, we can write down a new state-description which differs from the original one only in that the atomic statement "green (a)" is replaced by "blue (a)."¹ Now we can say, if we wish, that this new state-description does not describe a possible non-actual world, but simply a possible non-actual state of the actual world. In fact, if we define the actual world simply as the totality of entities a, b, \dots, n , this is the more correct way of speaking. Instead of speaking of possible worlds we speak of possible states of the actual world, in accordance with Goodman's metaphorical statement that "all possible worlds lie within the actual world." But if we define the actual world, following the Wittgenstein of the *Tractatus*, as the totality of *atomic facts*, which involve a, b, \dots, n as well as the simple properties (and relations) they actually have, then we shall have to say in Leibnizian fashion that the new state-

* If the language-system is descriptively complete in the explained sense, no negative statements need occur in the state-descriptions. If $P_1, P_2, \dots, P_n, P'_1, P'_2, \dots, P'_n, \dots, P_1^m, P_2^m, \dots, P_n^m$ are m families of determinate predicates under a common determinable, and there are r individual constants, a state-description will be a conjunction of mr atomic statements, on the assumption that every individual, in order to be completely characterized, must be ascribed exactly one predicate from each family. (Cf. Carnap, *Logical Foundations of Probability* [Chicago, 1950], § 18c.)

description describes a possible world which is different from the actual world. Therefore the question whether, as Goodman maintains, "all possible worlds lie within the actual one," (which can only mean that a possible world is a possible state of the actual world), turns on the question of which sense of "world" is meant.

One who, following Berkeley and Russell, cannot make anything of the notions of "substrata" or "bare particulars," might indeed urge the convention to use a different individual constant in the atomic statement which is false (relative to the actual world) yet conceivably true: "green (*a*)" but "blue (*a'*)."⁷ But then *substrata* would be avoided only by admission of *possible particulars*: "*a*" designates a possible particular. There seem to be, then, two languages in which speculations about possibilities can be expressed: we can say, in the meta-language, that "blue (*a*)," while actually false, is possibly true; in other words, that there is a possible state of the actual world which differs from the actual state of the actual world in that *a* is blue instead of being green. This seems to be the language preferred by Goodman, which, as far as I can see, involves an ontological commitment (in Quine's phrase) to bare particulars—i.e., the variables of quantification of the language range over all the bare particulars that constitute the actual world. The alternative language is the language of possible particulars: *a* is green but *a'* is blue, and since "the actual world" in this linguistic framework means the totality of atomic facts and "blue (*a'*)" does not express an atomic fact (it rather expresses an atomic possibility), any state-description containing "blue (*a'*)" would have to be said to describe a possible world which is different from the actual world.

Now, while I have no objection—waiving the "substratum" difficulty⁷—to Goodman's way of speaking about possibility, I must emphasize that even though there is no reference to possible entities of any kind, it essentially involves the use of modal opera-

⁷ I have discussed this difficulty in connection with subjunctive conditionals in "Extensional Logic and Laws of Nature," to be printed in the *Proceedings of the International Congress for Philosophy of Science* (Zürich, 1954).

tors. That we can express speculations about possibilities without using "possible" either as statement operator ("it is possible that *a* is blue") or as modifier of predicates ("*a* is possibly-blue"), Goodman has not shown at all.

Goodman holds not only that the philosopher can and should construct a language in which the notion of *causal possibility*, which is apparently involved in counterfactual conditionals, does not appear, but also that talk about *logical possibility* should be banished from philosophical discourse. He expresses (p. 63) his inclination "not merely to agree [with Hume] that there are no necessary connections of matters of fact, but to ask whether there are any necessary connections at all"; and "for the sake of some unusually sheltered reader" he explains "that the notion of a necessary connection of ideas, or of an absolutely analytic statement, is no longer sacrosanct" (p. 84). But it is not clear to me how one who "discards" the notion of logical necessity, or of logical possibility,^{*} can do philosophical analysis at all. Indeed, I seem to find Goodman himself "smuggling" it in when he judges a proposed analysis of a disposition concept. Consider the following typical passage: "We commonly suppose that a statement like "*w* is inflammable" amounts to some such normal counterfactual as "If *w* had been heated enough, it would have burned." Once we look more closely, however, we can readily describe circumstances—for example, a lack of oxygen near *w*—under which the dispositional statement is true and the counterfactual false" (p. 43). Surely, by "describe circumstances" Goodman must mean "describe logically possible circumstances." For just suppose that *in fact w* is surrounded by oxygen as long as it exists, so that not only the dispositional statement is true in the actual world but also the counterfactual (which should properly be written with tenseless predicates and universal quantification over the time-variable: "for any *t*, if *w* were heated enough at *t*, then *w* would burn at, or shortly after, *t*") is not refuted by any actual fact. Would not Goodman admit that even on this supposition

* These two concepts are of course interdefinable: *p* is logically necessary if and only if not-*p* is not logically possible, and *p* is logically possible if and only if not-*p* is not logically necessary.

(if indeed he permits me to make suppositions) the cited analysis of "inflammable" would be inadequate? And why is it inadequate if not because it is logically possible that the analyzed statement be true while the analyzing statement is false?

If it be granted, however, that the notion of logical possibility (whatever *its* analysis may be, if it is analyzable at all) is inseparably bound up with analysis, then much of what Goodman says in connection with the problem of "explaining disposition terms without any reference to occult powers" (p. 44) is strange, to say the least. After showing, correctly, that this problem leads inevitably to the problem of distinguishing laws from accidental truths, he offers his frustrated audience "one small note of comfort" (p. 48). It is that even if we should not succeed in solving the *general* problem of analyzing "law" and therewith "dispositional predicate," we might still find suitable definitions for *particular* dispositional predicates. Thus, "if luck or abundant special information turns up a manifest predicate 'P' that we are confident coincides in its application with 'flexible,' we can use 'P' as definiens for 'flexible' without inquiring further about the nature of its connection with 'flexes.'" Evidently all that Goodman here demands of a definition is extensional equivalence of definiendum and definiens. But then it seems that Goodman does not distinguish at all between the empirical problem of discovering, with the aid of inductive inference, a manifest property that has the same extension as "flexible," and the analytic problem of explaining the meaning of "flexible." Why then write a philosophical paper on the meaning of "flexible," and similar predicates—such as his acute paper "The Problem of Counterfactual Conditionals"? Why not join the natural scientists in their empirical research?

2. *The New "Problem of Induction."*

Goodman reduces the problem of defining "law" to the problem of defining "confirmation." "Only a statement that is *law-like*—regardless of its truth or falsity or its scientific importance—is capable of receiving confirmation from an instance of it;

accidental statements are not" (p. 74). In order to illustrate this important point, it is best to let Goodman speak himself:

That a given piece of copper conducts electricity increases the credibility of statements asserting that other pieces of copper conduct electricity, and thus confirms the hypothesis that all copper conducts electricity. But the fact that a given man now in this room is a third son does not increase the credibility of statements asserting that other men now in this room are third sons, and so does not confirm the hypothesis that all men now in this room are third sons (pp. 73-74).

To say, then, that a statement "All A are B" is capable of receiving confirmation from an instance of it, is to say: the fact that one or more observed A's are B's warrants the prediction that unobserved A's are B's to some degree. If the statement is capable of receiving instantial confirmation in this sense, the predicate "B" is said to be *projectible* relative to the predicate "A."^{*} Goodman's problem is to find an acceptable criterion of projectibility. He does not find it illuminating to say that B is projectible relative to A if in fact there are known positive instances of the statement "All A are B" and no known negative instances, for this criterion would just fail to distinguish between lawlike and accidental statements. Moreover, he constructs an example to show that such a simple criterion would lead to contradiction: taking "green" as instance of "B" and "emerald" as instance of "A," let us assume that all emeralds examined before time t are green. Then the prediction that the first emerald examined after t is likewise green will have a certain degree of confirmation relative to this evidence of past observations. But let "grue" be defined as meaning "either examined before t and green, or not examined before t and blue." Since all emeralds examined before t are, on our assumption, green, they are examined before t and green, and therefore grue (by the principle that if a thing is P, then it is

* Notice that a predicate may be projectible relatively to one predicate and non-projectible relative to another; thus "being blue-eyed" is projectible relative to "having blue-eyed parents," assuming that the statistical generalization "the relative frequency of blue-eyed persons within the class of persons whose parents are blue-eyed is m/n " is a lawlike statement, but it is not projectible relative to "being in this room at this time."

either P or Q). Hence the degree of confirmation of the prediction that the next examined emerald is grue should be the same, since the evidence is precisely the same. But this prediction entails that the emerald to be examined next is blue, and hence not green. But that incompatible predictions should be confirmed to the same degree by the same evidence is intolerable (cf. pp. 74-75).

If I understand Goodman correctly, it is this sort of paradox, entailed by the common sense rule of induction that an hypothesis "All A are B" is projectible—i.e., is a reliable basis for predictions—if many positive instances and no negative instances have been observed, which motivates him to sketch an elaborate "theory of projection." The wise question to ask before making the needed great analytic effort to understand it is of course: is it worth all the trouble? Now, Carnap proposed some time ago a simple solution of Goodman's difficulty.¹⁹ He pointed out that Goodman succeeds in deriving a contradiction on the basis of the inductive rule in question only by applying the latter to predicates defined in terms of an individual constant ("time *t*"), and that therefore restriction of the rule to *purely qualitative* predicates is the simple cure. Goodman replies that whether or not a given predicate is purely qualitative, in the sense that its meaning is not specified in terms of an individual constant, is relative to a choice of primitives. For example, if, in order to make trouble for inductive logic, we introduce still another peculiar predicate "bleen," defined as "either blue and examined before *t* or green and not examined before *t*" (which like "grue" is supposed to apply to emeralds), we can alternatively define "green" and "blue" in terms of "grue," "bleen," and the individual constant "*t*" as primitives.²⁰ Further, Goodman disclaims ability to recognize a predicate as purely qualitative independently of deciding the question of projectibility.

¹⁹ See "On the Application of Inductive Logic," *Philosophy and Phenomenological Research*, VIII (1947), pp. 133-47.

²⁰ Thus it is provable by propositional calculus that if "grue" and "bleen" are defined as indicated, then "*x* is green" is logically equivalent to "*x* is grue and is examined before *t* or *x* is bleen and is not examined before *t*."

This rejoinder seems to me to be based on a confusion between *logical equivalence of terms* and *analysis of concepts*. Surely one cannot analyze the meaning of "green" in terms of "grue," "bleen," and "*t*" in the sense in which one can analyze the meaning of "grue"—assuming that "grue" had a usage prior to its explicit definition—in terms of "green," "blue" and "*t*." Indeed, it is only the stated definitions of "grue" and "bleen" which enable Goodman to prove that "green" is definable—in the sense of logical equivalence—in terms of "grue" and "bleen." Hence the definition of "green" is circular if in the system in which "grue" and "bleen" are allegedly primitives they have the same meanings as in the system in which they are defined. In other words, in order to justify the definitions of "blue" and "green" in terms of "bleen" and "grue," we have to fall back on the definitions of the latter pair in terms of the former pair. Therefore, the former definitions are either circular or, using meaningless terms as *definientia*, do not explicate the meanings of the *definienda*. Consequently the claim that we have a choice between taking the one set of *concepts* as primitive and the other set as analyzed, or vice versa, is untenable. Degree of simplicity of concepts is not relative to a system of definition of terms. Although, given the customary biological meanings of "brother," "sister," "male," and "sibling," "*x* is a sibling" is logically equivalent to "*x* is a brother or a sister" just as surely as "*x* is a brother" is logically equivalent to "*x* is a male sibling," the concept *being a sibling* is simpler than the concept *being a brother*. The latter is the logical product of the concept *sibling* and the concept *male*; therefore a definitional system which reflects degrees of simplicity of concepts, taking the simplest concepts as primitives, would have to contain the definition "brother = male sibling" (D_1) instead of the definition "sibling = brother or sister" (D_2). It is not denied that D_2 is a proper explanation of the meaning of "sibling" to one who has learned the meanings of "brother" and "sister," like most of us, before knowing the meaning of "sibling." Similarly most children learn the meaning of "parent" after they know the meanings of "mother" and "father." But this is perfectly compatible with saying that the concept *parent* is a constituent of both concepts *mother* and *father*, and is therefore simpler than

either.¹² There are, admittedly, difficulties facing the explication of the non-semiotic ("absolute") concept expressed by "concept C is simpler than concept C'" or even of the concept expressed by "C is absolutely simple." But to fail to see the distinction in question is tantamount to failing to see the difference between analysis of concepts and descriptive semantics.

Goodman's argument from interdefinability, therefore, impresses me as irrelevant to the contention that "blue" and "green," unlike "bleen" and "grue," designate purely qualitative properties. Goodman also claims that he simply does "not know how to tell whether a predicate is qualitative or positional, except perhaps by completely begging the question at issue and asking whether . . . simple syntactically universal hypotheses applying it are lawlike" (p. 79). But surely we can determine whether "blue" is qualitative by determining whether it is necessary to refer to a given particular—to be distinguished from "referring to some particular or other"—in order to explain its meaning.¹³ Goodman will retort that the notion of "the meaning" of a predicate is obscure to him (*ibid.*). If so, how can he implicitly make statements like "the meaning of 'inflammable' is such that it is no contradiction to suppose that an inflammable thing fails to burn though it is heated"?

¹² There is no space here for attempting an analysis of the difficult concept of analysis. But I would just like to add the following explanation for readers who are puzzled by my statement that though both D_1 and D_2 express, given the usual meanings of the terms, logical equivalences, only D_1 is acceptable as an analysis: it is impossible to know that x is a brother without knowing that x is male and knowing that x is a sibling (i.e., the parents of x are also the parents of someone else). Now, knowing that x has property P entails having a concept of P (which is not to be confused with understanding what "P" means). But one could know that x is a sibling without having a concept of the disjunctive property *being either a sister or a brother*, and therefore without knowing that x has this property. Just suppose a universe in which there are siblings but no males, i.e., women become pregnant without sexual intercourse and always give birth to females, never to males: it is unlikely that in such a universe any mind would acquire the concept of a brother.

¹³ This criterion was proposed by Hempel and Oppenheim, in "Studies in the Logic of Explanation," *Philosophy of Science*, XV (1948), § 6.

Goodman's central problem is that of clarifying the concept of "confirming instance," and therewith the lawlike-accidental distinction, via the clarification of "projectible predicate." Evidently it is evident to him that the mentioned distinction is a sharp one. According to him no number of positive instances of an accidental universal bestows the slightest degree of confirmation upon the universal or upon instantial statements derivable from it. This could not, of course, be controverted if it were meant as a definition of "accidental universal." But Goodman does not beg the question like that. He explains the meaning of the accidental-lawlike distinction antecedently in terms of examples. But as a generalization about the sort of examples he gives I find it unpleasing. If I make 10 drawings of marbles from a given urn and find that they are all white, does not this evidence, in terms of the intuitive meaning of "confirmation," confirm to some degree the prediction that the next drawing will again be a drawing of a white marble, and to a higher degree than the same prediction is confirmed by the evidence that just one of the drawn marbles was white? Yet, "all the marbles that are now in this urn are white" is what Goodman would call an "accidental statement." It may well be that an adequate inductive logic will, unlike Carnap's, have to take account in some ways of the lawlike-accidental distinction, but I doubt whether the rules which concern the functional dependence of the degree of confirmation of a singular prediction upon the amount of instantial evidence are affected by it at all, if we allow ourselves to disregard Goodman's artificial positional predicates. Furthermore, if his characterization of accidental universals as universals incapable of being instantially confirmed is abandoned, I doubt whether the considerable expenditure of admirable dialectical skill in this book has led to any net clarification. For there are, as far as I can see, only two other ways in which the lawlike-accidental distinction might be explicated as a sharp and logical "distinction: one might say,

" "Logical" is here contrasted with "psychological." Should one hold that accidental universals differ from lawlike ones only in that observations of positive instances produce relatively small degrees of expectation of further positive instances, then the distinction would be regarded as both a matter of degree and a psychological matter. There is

as Goodman himself has said, that lawlike universals, and not accidental ones, permit of the deduction of subjunctive conditionals; or one might say that accidental universals, but not lawlike ones, contain individual constants essentially.¹⁸ On the first alternative it would be presupposed that the subjunctive "if-then" is sufficiently clear to be acceptable as a primitive logical constant—a presupposition which Goodman would surely reject. On the second alternative, however, he would have to admit that the distinction between predicates and individual constants is sufficiently clear to be a legitimate tool of logical analysis. If so, the same point ought to be conceded for the distinction between qualitative and positional predicates. If so, then the "new riddle of induction" cannot be as serious as it appears to be to Goodman.

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no space here to explore the merits or faults of this alternative, which would fit in well with Hume's genetic theory of inductive beliefs.

¹⁸ A universal statement contains an individual constant essentially if it contains an individual constant and is not deducible from well confirmed universal statements that do not contain individual constants. If it contains an individual constant but *is* deducible from such "purely universal" hypotheses, it may be characterized as a "derived" law. For example, Kepler's first law contains the individual constant "the sun" (since "planet" is defined as "celestial body revolving around the sun") inessentially, since it is deducible from the laws of motion together with the law of gravitation, which are purely universal. It might be objected that a clearly accidental universal, like "all the people sitting on bench *b* at time *t* are bald," might satisfy the requirement of inessential occurrence of individual constants; for it might happen that there is a general property *P* which *b* and only *b* has at *t* and which no object has at any other time, in which case the above accidental universal would be equivalent to the purely universal statement "anybody who sits on a bench that has *P* is bald." But this objection overlooks that such an equivalence would not be *logical*: it would be just an empirical fact that *P* is uniquely instantiated as indicated. Therefore the accidental universal statement would not be logically deducible from purely universal hypotheses that are well confirmed.

ALIOTTA'S RADICAL EXPERIMENTALISM

PATRICK ROMANELLI

PROFESSOR Aliotta's *Il nuovo positivismo e lo sperimentalismo*¹ constitutes the seventh volume of his *Complete Works* to appear to date. This in itself should be sufficient to convince us in the English-speaking world how distorted is our idea of 20th century philosophy in Italy, the treatment of which in our history of philosophy textbooks is usually restricted to the neo-idealists, Croce and Gentile. For Antonio Aliotta is, in many respects, the intellectual father of the New Enlightenment in Italy, which has come to challenge vigorously and effectively in recent years the wisdom of the powerful idealistic tradition in that historic land, and which, by making a refreshing appeal to scientific method, has helped to liberate Italian minds from the "nebulous atmosphere" (p. 137) left over from idealism in the past century and restored at the beginning of the present by Croce and Gentile.

The New Enlightenment in Italian philosophy is expressed, chiefly, by two militant currents of thought, the existentialist and the neo-positivist. Thus the interesting thing about the author's latest book, which deals with the neo-positivistic movement from its originators down to its Italian representatives, is that it turns out to be an appraisal of some of his own pupils. In addition, the book contains a short but telling comment on his former pupil Nicola Abbagnano (now leader of the Italian existentialists), who is coupled with the neo-positivists in Italy for strategic purposes.

Roughly speaking, there are two parts to the present work, with a good deal of overlapping due to the fact that some of the essays appeared separately elsewhere. The first part is addressed to the defense of a position which is called "radical experimentalism." Having come under the influence of William James, Aliotta's philosophy could be said to be a sort of "radical

¹ Antonio Aliotta, *Il nuovo positivismo e lo sperimentalismo, Opere Complete*, VII (Roma: Cremonese, 1954).

"empiricism" in Italian dress. However, there is a significant difference in temper between the two men. Whereas William James had an *epic* sense of life, Antonio Aliotta has (in part, though not entirely) a *tragic* awareness of "the absolute risk of life" (p. 127). This difference is important because without it, for one thing, we could not make intelligible the influence the Italian author has exerted on the recent existentialist trend in Italy.

According to radical experimentalism, experiment (in the pregnant sense of knowing by doing) is "the sole criterion of all truth" (p. 12). That is to say, Professor Aliotta believes in "the possibility of experiment in metaphysics" (p. 47), in religion, and in art, as well as in science. He is confident that philosophies and religions, like the sciences, are subject to experimental control, although he wisely concedes that the ultimate bearings of hypotheses in metaphysics are "less determinable" (p. 135) than those in science. Still, unfortunately, nowhere in the present volume are we told what a metaphysical experiment is or would look like. All that is hinted at is that the "laboratory" of philosophy is the whole of history (p. 55). This is undoubtedly true, but this is also precisely the reason why no fruitful experiments exist in the field of philosophy. For what makes any experiment fruitful (in the theoretical sense) is contingent on the possibility of isolating certain factors from the whole of history and keeping them under control.

As I see it—from the point of view of philosophical naturalism—all we can ever hope for in metaphysics is *indirect* confirmation of our hypotheses regarding the nature of things from the cumulative evidence of the sciences and the humanities. This may not be much, but it is better than nothing. In any case, we do not escape from our methodological predicament in metaphysics by consoling ourselves with the author's simple dictum: Every physical experiment is at the same time a metaphysical experiment (p. 49). Even if it were so, its converse would not follow necessarily. In short, history may be all we can have final recourse to in checking the adequacy of our metaphysical hypotheses, but it is much too large a laboratory for experimental purposes.

Like most pragmatists, Professor Aliotta seems to confuse the practical meaning of the word "experiment" (in the loose sense of "experience") with its strict meaning in empirical science, especially when he comes to advocate the possibility of applying the experimental method to religion. (In Italian the terms *esperimento* and *esperienza* are even more interchangeable and hence more ambiguous than their English equivalents.) Like many devout Christians, the author argues that, since the history of Christianity is filled with "sublime experiments" (p. 153) of great and lasting value, the only way to put a religion to the test is by trying it out. But, no matter how sublime religious "experiments" may be, they are not what scientists ordinarily have in mind by experimentation. The trying out of the hypothesis of Christianity signifies living according to its precepts and then seeing their *practical* consequences in conduct, but the trying out of the hypothesis of evolution (to take a popular example from the biological sciences) signifies first figuring out its *theoretical* consequences on paper and then checking them against the relevant findings.

Moreover, even if we grant the experimental possibility of metaphysics and religion to some extent at least, there is one crucial area of inquiry—ethics—where the experimental method as such cannot determine truth or falsity and, consequently, does not work at all. To be sure, Professor Aliotta unhesitatingly declares, "Moral laws have no absolute value, but are human constructs which are subject to social experiments, *in the same way as scientific laws*" (p. 235, italics added). Quite apart, however, from the perennial controversy over ethical relativity, is it really true that the question as to the validity of *normative* hypotheses in ethics can be settled by the same method used for validating *factual* hypotheses in the physical and social sciences?

There are two varieties of concepts to which the experimental method is not applicable: (a) those that transcend the field of *possible* experience and (b) those that transcend the field of *actual* experience. The author is quite aware of the methodological difficulties connected with the first class of concepts, but his approach to the problem of truth in ethics shows little awareness of the corresponding difficulties inherent in the second class. For

the logical trouble with ethical concepts is that, by definition, they transcend the field of *actual* experience, ideals being in essence *possibilities* of action and never fully actualities. Now, to verify an hypothesis experimentally implies the possibility of checking its claims as to *possible* experience—the alleged facts—against the experimental findings of *actual* experience. Unfortunately, this is exactly what cannot be done with an ethical hypothesis. Since an ethical hypothesis makes no claims as to matters of fact but only claims as to what is *better* than fact, there is no conclusive way of testing it experimentally. Accordingly, to illustrate, if we had to wait for experimental proof (in the strict sense) of our faith in the democratic ideal, we would have to wait from here to eternity. Besides, the most we could ever learn from social experimentation anyway is the degree of *approximation* on our part to certain postulated ideals—which is not the same thing as their *verification*.

As one might anticipate from the title of the volume under consideration, the second part offers a critique of logical positivism from an experimentalist standpoint. Like most of us, Professor Aliotta is much better at showing us what is wrong with the other fellow's philosophy than at telling us what is right with his. His survey of the neo-positivistic movement from Wittgenstein and the Vienna Circle to its representatives in Italy, though brief and sketchy, is comprehensive and to the point. The account is highly illuminated by a synoptic analysis of the origins of the movement. Here the emphasis is made upon the point that the methodology of the new positivism owes its birth more to the internal crisis within 19th-century mathematics and physics than to "the external criticism of philosophers" (p. 183). In a word, viewed historically, the new positivism is a movement in philosophy which has attempted to be the new geometry (non-Euclidean) and the new physics (non-Newtonian) *generalized*.

Keeping the development of modern science always in the background, Professor Aliotta draws in effect a sort of balance sheet of the neo-positivistic movement and, as we should expect from an experimentalist in philosophy, he begins by applauding its spokesmen for calling our attention to two interrelated needs which

any sound methodology must satisfy: (a) the need of finding a method of inquiry for arriving at a system of knowledge "over which all men can agree," thereby "eliminating arbitrary and dogmatic assertions"; and (b) the need of clarifying our language, the medium "through which that agreement is to be established" (p. 155). On the other side of the ledger, he finds that neither of these two justifiable demands is satisfied sufficiently by the logical positivists. For one thing, according to the author, who, incidentally, did some experimental work in the field of psychology during the early part of his career, the best evidence against Neurath's "physicalist" interpretation of the method needed to reach scientific agreement comes from experimental psychology itself. As to the semantic requirement, Aliotta makes clever use of Carnap's "principle of tolerance" in logic, urging neo-positivists who are so intolerant of other people's way of talking to stop contradicting themselves.

The most novel and significant part of Professor Aliotta's inquiry into the strong and weak points of logical positivism appears in the next to the last section of his work, which deals in summary fashion with the Italian version of the movement, including a reference to Abbagnano and Italian existentialism. Here the impression one gets is that the Italian members of the existentialist and neo-positivist schools of thought fare better than their counterparts in other countries. "In Italy those who sympathize with logical positivism," we read, "tend in general to free it of anti-metaphysical bias, which goes counter to the open-minded attitude characteristic of a critical mentality" (p. 234). This favorable judgment is natural enough, given what we said from the start about the author's close ties with the New Enlightenment in Italy. In our opinion, Aliotta is quite right about Abbagnano, whose "positive existentialism" may be said to have saved the movement from degenerating into excessive individualism and metaphysical nihilism (p. 242). And if Ludovico Geymonat, a pioneer among Italian neo-positivists, continues working towards what he calls a "new rationalism," then the movement to which he belongs, with research centers at the

moment in Turin and in Milan, will be saved from its anti-metaphysical form of nihilism. If this happens, it will be a happy day indeed for philosophy.

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EXPLORATIONS

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PLATO'S THEORY OF SENSATION, II

HAVING given a detailed exposition of what I take to be the theory of sensation in the *Theaetetus*,¹ I shall now argue that Plato believes this theory to be true. The scholars who agree that the theory is Platonic doctrine state their views more or less as *obiter dicta* (e.g., Burnet,² Stenzel,³ Ritter,⁴ Koyré⁵) or their arguments are correct in outline but in need of supplementation and elaboration (e.g., Jackson⁶ and Cornford⁷). My arguments are in the main amplifications of points suggested by Jackson and Cornford. The greater detail of my account serves two purposes. It seeks to prove the point more conclusively, and, at the same time, to complete the description of Plato's theory of sensation.

Cornford assures us that the theory of sensation developed in the *Theaetetus* must be Plato's own. He offers three considerations in support of this contention:

[a] Jackson pointed out [loc. cit.] that the theory is not refuted in the sequel, but on the contrary taken as a true account of the matter, and that it is repeated elsewhere in Plato's writings . . . [b] Burnet [loc. cit.] agrees with the attribution to Plato . . . [c] Plato intends to refute the claim of perception (in spite of its infallibility) to be knowledge on the ground that its objects have no real being, but are always becoming and changing and therefore cannot be known. For that purpose, he is bound to give us what he believes to be a true

¹ See this *Review*, IX (Sept. 1955), pp. 129-48.

² J. Burnet, *Greek Philosophy* (London, 1914), p. 242.

³ J. Stenzel, *Plato's Method of Dialectic*, tr. D. J. Allan (Oxford, 1940), pp. 62 ff.; also translator's Introduction, xv.

⁴ C. Ritter, *The Essence of Plato's Philosophy*, tr. Adam Alles (London, 1933), p. 135.

⁵ A. Koyré, *Introduction à la lecture de Platon* (New York, 1945), pp. 70-92.

⁶ H. Jackson, "Plato's Later Theory of Ideas, IV. *The Theaetetus*," *Journal of Philology*, XIII (1885), pp. 250 ff.

⁷ F. M. Cornford, *Plato's Theory of Knowledge* (London, 1946), p. 49.

account of the nature of those objects. It would be futile to prove that what some other individual or school, perhaps wrongly, supposed to be the nature of perception was inconsistent with its claim to yield knowledge. Accordingly he states his own doctrine and takes it as established for the purposes of the whole subsequent criticism of perception. To preserve the dramatic proprieties of dialogue, he uses the transparent device of making Socrates state it as a secret doctrine of a whole succession of wise men who notoriously had never taught anything of the kind.*

This last observation is penetrating, but it does not prove much by itself. As long as sensation is taken to mean an immediate awareness of a sense-given *quale* (and it is Plato's special care to use the word in that sense), on *any* theory of the detailed nature of sensation, sensation cannot be all that there is to knowledge.

I propose five arguments in support of the assurance that Plato accepts the theory of sensation in the *Theaetetus* as a true account.

1. *The Test of Consistency Within the Theaetetus.*

The test of self-consistency which the Socratic *διγνώσκειν* demands is that one must accept the consequences which follow from whatever premises one has already accepted as true. I shall show

* Op. cit., p. 49. The theory follows from premises which Plato accepts (see pp. 307-12 below), yet nowhere in the *Theaetetus* does he say, in so many words, that he is the author of it. On the contrary, he makes overt gestures to disclaim authorship. The theory is introduced at 152C "as a secret doctrine to be revealed to his disciples [by Protagoras]"; and again Plato describes it as a secret "concealed in the thought of a man—or rather men—of distinction (*χριστέρων*)."¹ Plato was no doubt fully aware of the perplexity he created. At 157C Theaetetus exclaims: "Really, I am not sure, Socrates, I cannot even make out about you, whether you are stating this as something you believe or merely putting me to the test." Plato's disclaiming authorship could be taken at its face value except that the *χριστέρων* had "notoriously never taught anything of the kind." Before the turn of the century, Jackson had already argued this point (op. cit., pp. 253-56) and from it had concluded that no one but Plato himself could have been the author of the theory of sensation. I believe that this conclusion is sound. However, this says nothing about Plato's believing the theory. He could have invented the theory without believing it, or he could believe it without having invented it.

(a) that Plato accepts as true the Protagorean and Heracleitean formulae, though only after they have been duly qualified, and
(b) that Plato considers the theory of sensation to follow from these duly qualified premises.

(a) "Man is the measure" of what and to what extent? "Protagoras tells us," says Plato, "that man is the measure of all things, and that things are to me such as they appear to me, and that they are to you such as they appear to you" (*Crat.* 386A). Early in the *Theaetetus*, Plato represents Protagoras as saying "that any given thing 'is to me such as it appears to me, and is to you such as it appears to you,' you and I being men" (152A). At the time he wrote the *Cratylus*, Plato seems to have repudiated this pronouncement *in toto*, since it would have all things "fluctuating according to our fancy"; so construed, Protagoreanism becomes tantamount to subjective relativism. In logic, it coincides with the doctrine advocated by Euthydemus that contradictory predicates may be ascribed to one and the same subject "at the same moment and always" (*Crat.* 386E).

The more sophisticated thinking of the *Theaetetus* considers much more carefully the meaning of "Man is the measure" as it is construed at 152A. Whereas the *Cratylus* at 386E speaks only of "things" which "must be supposed to have their own proper and permanent essence," the *Theaetetus* at once makes the distinction between *things* and their appearances (152B). Secondly, every appearance appears to someone: "What acts upon me is for me and no one else; I, and no one else, am actually sensing it" (160C). Since the relation of appearing has for one of its terms a sentient organism, the difficulties of predication disappear. No contradiction obtains when X appears hot to A and cold to B. Nor is there any contradiction when X appears hot to A now and cold to A ten minutes from now. A has changed and (since A's sense-object is existentially and qualitatively dependent upon A) the appearance has also changed.

This brings us to the crux of the matter. Though the truth of statements describing immediately sensed appearances is, practically speaking, "unassailable" (179C), there is a class of statements whose cognitive content refers to future events and legitimate disagreements may and do arise over the truth of such

statements (178C). According to Plato, this distinction raises the most serious objection against the claim that man⁹ is the measure of all things¹⁰ (179B), but unlike the *Cratylus*—which refused to allow that man is the measure of anything whatsoever—the *Theaetetus* concedes that Protagoras is practically “unassailable” if his dictum is confined to one’s immediate sense-objects.¹¹ Be it in dreams, hallucinations, madness, sickness, or ordinary experience, what immediately appars in sensation is as it appears to whom it so appears (157E-159E).

The Heracleitean “All things are in flux” is also qualified by means of a single fatal objection. If *all* things are in perpetual and *complete* change (182A), discourse becomes impossible (182D-E, 183A). The *Cratylus* says the same thing (440A-E). This passage in the *Cratylus* exhibits some doubt “whether there is this eternal nature in things, or whether the truth is what Heracleitus and his followers and many others say.” This “is a question hard to determine” (*Crat.* 440C). The contrasting sure-footed attack of the *Theaetetus* shows that upon reflection Plato came to the conclusion that his criticism of Heracleiteanism in the *Cratylus* is valid.¹²

The criticism results in the denial of “All things are in flux,” which is logically equivalent to “Something is not in flux.” Plato certainly believes that there are things not in flux, namely the

⁹ According to Plato, by “man” Protagoras means not the human scale, or common human rationality, but only man as an individual.

¹⁰ Cf. *Theaet.* 176B. “Man is the measure of all things” is here equivalent to: “it is not possible to think the thing that is not or to think anything but what one experiences, and all experiences are true.” (See Cornford, *Plato's Theory of Knowledge*, pp. 73, 116.)

¹¹ But this is possible only on the supposition that flux is not chaotic, for if all things were in chaotic flux, there would not be even sense-objects. The purpose of 179C-182D is precisely to prove that point.

¹² That there is a continuity in the development of Plato’s thought from the *Cratylus* to the *Theaetetus* is evident from the following facts. The arguments against Protagoras and Heracleitus in the *Cratylus* are almost a word for word preview of the same ideas better developed in the *Theaetetus* (cf. *Crat.* 386D, with *Theaet.* 171D and 179B; also *Crat.* 440, with *Theaet.* 182E). The allusions to Oceanus and Tethys (*Crat.* 402C, *Theaet.* 152E and 180D) arise within the same frame of reference in the two cases. Cf. also *Crat.* 411B, with *Theaet.* 179E-180.

Forms. But does he also believe that there are things in flux? I.e., can we argue that Plato is a qualified Heracleitean just as—we have argued—he is a qualified Protagorean? We can, if we look for evidence outside the *Theaetetus*.

That Plato accepts the Heracleitean formula when it is restricted to the visible world is supported by the *Timaeus*: "That which is apprehensible by thought with a rational account is the thing that is always unchangeably real; whereas that which is the object of belief together with unreasoning sensation is the thing that becomes and passes away but never has real being" (28A). Again: "Second is that which bears the same name and is like that Form; is sensible; is brought into existence; is perpetually in motion, coming to be in a certain place and again vanishing out of it; and is to be apprehended by belief involving perception" (52A). In commenting on the passage at 28A, Cornford distinguishes two senses of "to become," viz., (a) coming into existence and vanishing after some time, and (b) being in process of change without beginning or end. He concludes that "that which is *always* becoming but never has real being' . . . can only mean what 'becomes' in the second sense, what is everlastingly in process or change."¹³

The reality of "what changes and change itself" is asserted in the *Sophist* (249B). In the *Cratylus*, Plato had expressed a doubt whether or not "the truth is what Heracleitus and his followers and many others say" (440C). In the *Theaetetus*, Plato no longer expresses a doubt but announces a program: "The best plan, I think, will be to begin by taking a look at the party whom we first approached, the men of Flux; and if there seems to be anything in what they say, we will help them to pull us over to their side and try to elude the others: but if we find more truth in the partisans of the immovable whole, we will desert to them from these revolutionaries who leave no landmark unremoved" (181A-B). Plato's announced intention is to strike a middle course between Heracleitus and Parmenides.¹⁴ By subjecting their

¹³ Cornford, *Plato's Cosmology* (London, 1937), pp. 24-26.

¹⁴ Empedocles is said to have made the same attempt. See "Empedocles," *The Dictionary of Philosophy*, ed. D. Runes (New York, 1942).

several doctrines to criticism, he hopes to save whatever truth he can find in each and to repudiate their errors. This plan is not carried out in the *Theaetetus*. Socrates forbears to lay hands on father Parmenides (183E), and his examination of Heracleiteanism is wholly negative, leaving us with the impression that the men of Flux have nothing worth-while to say (183B). This impression is corrected in the *Sophist*. Plato's answer to Parmenides is: "If all things are unchangeable no intelligence can really exist anywhere in anything with regard to any object" (249B).¹⁵ In the next sentence he answers Heracleitus in almost the same words as at *Theaetetus* 182E and at *Cratylus* 440A: "And, on the other hand, if we allow that all things are moving and changing, on that view equally we shall be excluding intelligence from the class of real things" (*Soph.* 249B). We had already remarked that the denial of "All things are in flux" is logically equivalent to "Something is not in flux." But logic does not give us the right to conclude that because "Something is not in flux" is true, "Something is in flux" must also be true. What we were searching for was a separate chain of reasoning which would lead us to the conclusion "Something is in flux," and this we find in Plato's answer to Parmenides, for the denial of "Nothing is in flux" is logically equivalent to "Something is in flux." In Plato's own words: "Reality or the sum of things is both at once—all that is unchangeable and all that is in change" (*Soph.* 249D).¹⁶

These conclusions of Plato's mature reflection reaffirm thoughts stated in earlier dialogues. At *Phaedo* 78E-79A things "you can touch and see and perceive with the senses" are "described as almost always changing and hardly ever the same, either with themselves or with one another." The *Symposium* (207E) reiterates the doctrine of empirical flux. In like manner, *Republic* 534B assigns to Becoming the combined spheres of appearances and of belief (cf. 509D) and to Being the spheres of *επιστήμη* and *νόησις*.

(b) The evidence so far establishes that Plato accepts as true (i) the qualified Protagorean formula, "Each man is the

¹⁵ Cf. *Theaet.* 153B.

¹⁶ Cf. *Crat.* 439C; see also Aristotle, *Met.* 987^a 32-987^b 1; 1078^b 13-17.

measure of his own immediate sense-object," and (ii) the qualified Heracleitean formula, "All things in the sensible world are in flux." Furthermore, Plato has made it clear that the Flux theory is the more fundamental one. Plato writes as though the Protagorean formula is an epistemological and ethical corollary of Heracleitanism.¹⁷ With this in mind, I consider Jackson's argument conclusive that "[Plato] regards this theory of sensation as a corollary of the doctrine of flux."¹⁸ Plato announces the theory of sensation at 153D-154A, and develops it successively at 156A-157C and 182A-D. Jackson observes that the content of every one of these passages is presented as a necessary consequence of the doctrine of Flux. We must point out, furthermore, that the theory of sensation follows equally well from original as well as from qualified Heracleitanism. Coupling with this our previous conclusion that Plato accepts the properly qualified Heraclitean and Protagorean formulae, we arrive at the result that Plato must accept the theory of sensation as true. The logic of Plato demands self-consistency; the acceptance of certain premises commits you to the acceptance of whatever they entail (cf. *Phaedo* 94A, 100A).

2. *The Theory not Repudiated in the Theaetetus.*

The second argument in support of the view that the theory

¹⁷ Cf. *Theaet.* 152C and 152E: Protagoras' epistemological relativism is based upon the doctrine of flux, just as his ethical relativism is based upon the same doctrine (177C). See also 166B—it is silly, Protagoras is made to say in his own defense, to "allow that a person who is changed is the *same* as he was before the change occurred; or rather, that he is *one* person at all, and not several, indeed an infinite succession of persons, *provided change goes on happening*" (my italics). See also 158E-159E, 168B; the "unassailability" of the sense given follows from the Flux theory. As the case stands, however, Plato cannot validly infer the doctrine of Flux from the Protagorean principle. For this, see Cornford, *Plato's Theory of Knowledge*, p. 38, and J. W. Yolton, "The Ontological Status of Sense-Data in Plato's Theory of Perception," this *Review*, III (1949), p. 22. This *tour de force* on Plato's part does not, of course, damage the argument that Plato regards the theory of sensation in the *Theaetetus* as being a consequence of the qualified Protagorean and Heracleitean principles, both of which he accepts.

¹⁸ Op. cit., pp. 254-55.

of sensation is accepted by Plato is that the theory, stated very early in the *Theaetetus*, is not repudiated in the sequel. Up to 186E, which examines the hypothesis of sensation's being knowledge, Plato denies but three important theories: (1) that man is the measure of *all* things, (2) that *all* things are in flux, and (3) that knowledge is sensation. He does not repudiate the theory of sensation. On the contrary, we must accept the theory as an adequate account of sensation if we are to take Plato seriously. For instance, at 184D, he speaks of the senses as "instruments" and this is precisely the status accorded sense-organs in the theory of sensation. An instrument is usually an insensible tool in the hands of an intelligent artisan. The *πίστη* is nothing but an insensible tool, a physical process, through whose partial agency comes into being the psychic correlate of the physical basis of sensing. Another, and weightier, example to confirm the view that the theory of sensation is serious Platonic doctrine is this: the qualified Heracleitean (e.g., Plato) must reject as false the theory that knowledge is sensation, while the extreme Heracleitean, even if he does not suspect it, must identify knowledge and sensation. By a *reductio ad absurdum* Plato proves that sensationalism based upon extreme Heracleiteanism is a self-refuting doctrine. The argument, in brief, is this: extreme Heracleiteanism entails the theory that knowledge is sensation, yet on the basis of the theory that all things are in change, we cannot admit that knowledge is sensation (183C), simply because under extreme Heracleiteanism the words "knowledge" and "sensation" (and, in fact, all discourse) are meaningless (182E). Therefore, questions involving these concepts (e.g., what the nature of sensation is, or the hypothesis of sensation's being one with knowledge) are also meaningless. This means that on the basis of extreme Heracleiteanism, the theory of sensation cannot even be stated self-consistently. It can be so stated only under Plato's qualified version of Heracleiteanism,¹⁹ and, since that version entails the theory

¹⁹ Cf. Part I, footnote 15; also pp. 310-11 above. Plato would have agreed with the *κομψότεροι* (had they held the theory "attributed" to them) that sensation is what they "say" it is. Plato parts company with them only when they identify sensation and knowledge.

of sensation, we emerge with the same conclusion as we reached at the end of our first proof. Finally, the key conclusion of the first part of the *Theaetetus* (151D-186E) is that "Knowledge does not reside in the impressions, but in our reflection upon them" (186D). This conclusion requires that we take the theory of sensation as serious Platonic doctrine. In the theory of sensation, sense-objects are described as brute, immediately and unthinkingly intuited *qualia*. Plato is saying that if sensation is what we have said it is, it cannot be knowledge, since knowledge depends upon reflection over and above brute sensation.

3. Agreement With The *Meno*.

The third argument has to do with a passage in the *Meno*. It is a perfunctory statement of the efflux theory of Empedocles. There are certain effluences of existence and passages into which and through which they pass. Into some of these passages the effluences fit and in some other passages they do not fit. Also there is sight (*Meno* 76D). Socrates apparently accepts this theory for he makes it the basis of his definition of color: color is an effluence of form, commensurate with sight and sensible (*Meno* 76E). I suggest that "effluence" in the *Meno* is cognate with $\pi\varphi\sigma\beta\alpha\lambda\lambda\mu\epsilon\nu\eta$ in the *Theaetetus* (153E). The vague Empedoclean phrase "commensurate with sight" (or any other $\pi\varphi\sigma\beta\alpha\lambda\lambda\mu\eta$) becomes, in the *Theaetetus*, the doctrine that agent and patient become actual only by virtue of a unique adjustment between a $\pi\varphi\sigma\beta\alpha\lambda\lambda\mu\epsilon\nu\eta$ emanating from the agent and a $\pi\varphi\sigma\beta\alpha\lambda\lambda\mu\eta$ emanating from the patient. According to this view, the Empedoclean efflux theory in the *Meno* is developed as part of the theory of sensation in the *Theaetetus*, and, *a fortiori*, in the theory of sensation in the *Timaeus*,²⁰ since, as I hope to show, the theory of the *Theaetetus* fits hand to glove the theory in the *Timaeus*. By itself, this interpretation would be nothing but conjecture. Abetted by four other arguments independent of it, it becomes one more piece of corroborative evidence. My intention is to show that identical elements as regards the theory of sensation

²⁰ Cf. Cornford, *Plato's Cosmology*, p. 512 (*Tim.* 45B-C).

run continuously from the early *Meno* to the later *Theaetetus* and the still later *Timaeus*. Another argument for this continuity is that at *Theaetetus* 152E, Empedocles is mentioned by name as one of the *xouphoroi* to whom Plato "attributes" the theory of sensation. This sort of continuity points to a constancy of viewpoint within the Platonic texts.

4. *Agreement with the Sophist and the Timaeus.*

The fourth argument will establish that all the pertinent passages in the *Sophist* and in the *Timaeus* agree in every respect with the theory of sensation in the *Theaetetus*. Since both the *Sophist* and the *Timaeus* present Plato's mature and serious doctrine,²¹ their agreement with the *Theaetetus* is almost conclusive proof that the latter contains what Plato thought to be as true an account of sensation as his ability and the nature of the subject-matter permitted.

The "friends of Forms," including the Platonic Socrates,²² "make a distinction between 'Becoming' and 'Real Being' and speak of them as separate . . . And [they] say that we have intercourse with Becoming by means²³ of the body through sense, whereas we have intercourse with Real Being by means of the soul through reflection. And, Real being, [they] say, is always in the same unchanging state, whereas Becoming is variable" (*Soph.* 248A). And what do "the friends of Forms," or in brief, Plato, mean by "intercourse"? They mean what was described at *Sophist* 247E, and repeated at 248B: "intercourse" means "the experiencing an effect or the production of one, arising, as the result of some power, from things that encounter one another." Nor is there any doubt in the minds of "the friends of Forms" "that a power of acting and being acted upon belongs to Becoming" (*Soph.* 248C).

²¹ I agree with Cornford as against Taylor that the theories propounded in the *Timaeus* are genuinely Platonic. See especially Cornford, *Plato's Cosmology*, p. x.

²² Constantin Ritter, *Platon* (München, 1910-23), II, p. 132; Cornford, *Plato's Theory of Knowledge*, p. 242 ff.

²³ Instrumental dative; cf. *Theaet.* 184D.

The reader will immediately recognize, in the above, a condensed restatement of elements from the theory of sensation in the *Theaetetus*. Whereas in the *Theaetetus* the theory is "attributed" to certain *κομψότεροι* who could not possibly have been among "the friends of Forms,"²⁴ in view of the *Sophist* (assuming that the identification of Plato with "the friends of Forms" is established), we may conclude with assurance that the theory of sensation in the *Theaetetus* is straight Platonic doctrine. There is another piece of evidence in favor of this conclusion. At *Sophist* 266C, Plato, while giving his own description of the mechanism of sensing mirror-images, mentions "the light belonging to the eye [which] meets and coalesces with light belonging to something else." The connection of these two kinds of "light" with the *προσβάλλων* and the *προσβαλλόμενον* at *Theaetetus* 154A is unmistakable.

A comparison of the *Theaetetus* and the *Timaeus* further strengthens these conclusions. The theory of sensation at *Theaetetus* 156A begins with the metaphysical assumption that the universe (i.e., the sensible universe) is motion. The metaphysics of nature in the *Timaeus* begins with this same assumption (28A, 52A). This is the first point of doctrinal identity in both dialogues with respect to the theory of sensation.

Secondly, the *Theaetetus* gives a list of "sensations"—seeing, hearing, smelling, feeling cold, feeling hot—and again pleasures and pains and desires and fears (156B). Exactly the same list appears in the *Timaeus*: 61C-64A discusses touch-sensations, 64A-65B pleasure and pain, 65B-66C taste-sensations, 66D-67A olfactory-sensations, 67A-67C auditory sensations, and 45B-46C and 67C-68D visual-sensations.²⁵

The *Theaetetus* illustrates the general mechanism of sensation by the case of visual (color) sensations. Now the account of the

²⁴ Parmenides, whom Plato regards as the only pre-Socratic close to "the friends of Forms," is the only sage specifically excluded from the number of the *κομψότεροι* (*Theaet.* 152E).

²⁵ Visual-sensations include color sensations, bulk-sensations, figure-sensations (163C) and probably depth and distance sensations (cf. *Meno* 75B: "Figure is the only thing that always accompanies color").

various modes of sensing in the *Timaeus* fits exactly into the general scheme of sensation constructed in the *Theaetetus*.

The most striking point of correspondences between the two dialogues in this respect is the theory of visual sensation in each. The correspondence would be exact except that in the *Timaeus* daylight is introduced as an additional factor necessary for vision. Daylight is fire which "has the property, not of burning, but of yielding a gentle light" (*Tim.* 45B-46). It is akin to the "pure fire" within us which flows through the eyes, the visual προσβάλλον of the *Theaetetus*. Now "whenever there is daylight round about, the visual current²⁶ issues forth, like to like, and coalesces with [the daylight] and is formed into a single homogeneous body in a direct line with the eyes" (*Tim.* 45C).

The function of the visual προσβάλλον is, thus, exactly the same as in the *Theaetetus* except for the stipulation that (1) in the absence of daylight, the visual προσβάλλον does not become an acting δύναμις but remains potential in the eye,²⁷ and (2) before it encounters the visual προσβαλλόμενον, the visual προσβάλλον must fuse with daylight and the ray thus compounded is directed from the eye toward a visible object.

This interpretation follows Cornford's translation of 45B,²⁸ according to which daylight is "the proper body of each day," not, as Taylor thinks, "either the sunlight reflected from surfaces, or, as in the case of self-luminous objects . . . the 'proper light' of the self-luminous body."²⁹ Daylight is a distinct third factor together with the visual ray issuing from the eye (προσβάλλον), and the visible ray issuing from the perceptual object (προσβαλλόμενον). According to *Theaetetus* 156E, προσβάλλον and προσβαλλόμενον meet and form a continuous "pencil" of light. Taylor is correct insofar as he regards the "pencil" of light as "extending from a body outside us continuously to our own eyes." He is also correct in maintaining that this "pencil" of light energy

²⁶ I.e., the προσβάλλον from the eye.

²⁷ Cf. *Rep.* 507E.

²⁸ See Cornford's footnote 2, p. 152, *Plato's Cosmology*; also *Tim.* 64D. Cornford's reading finds powerful support at *Rep.* 507D, 518E.

²⁹ A. E. Taylor, *A Commentary on Plato's Timaeus* (Oxford, 1928), p. 153.

"transmits' sensation from one extremity to the other." Cornford criticizes this view on the ground that "sensation, as Plato clearly says, occurs in the soul," not in the space traced by the "pencil" of light.²² Cornford's objection overlooks the ambiguity of the word *αἰσθησία*, as we have pointed out (Part I, Sec. 6). The word "sensation" which appears in Taylor's phrase, "transmits' sensation from one extremity to the other" (quoted above), means *αἰσθησία*; while that which appears in Cornford's phrase, "sensation", as Plato clearly says, occurs in the soul" (quoted above), means *αἰσθητή*. Both usages are legitimate and the dispute evaporates once the ambiguity is exposed. The *Timaeus* refers to *αἰσθησία* at 43C, and soon afterwards, at 45B-45D, it speaks simultaneously of the physical basis and the psychic act of sensing. The *Theaetetus*, on the other hand, concentrates at 156A-157C only on the physical mechanism of sensing, and does not mention the psychic act of sensing until 184D. But the two accounts are identical save that the *Timaeus* introduces daylight as an additional factor, and this is not incompatible with the account in the *Theaetetus*. It is, rather, complementary to it.

As in the case of the visual *προσβάλλον*, the function of the visual *προσβαλλόμενον* is the same in the *Theaetetus* and *Timaeus* (67C-67D). Here, too, the language is ambiguous but need not be confusing. Just as at *Theaetetus* 156E "whiteness" was taken to denote what *προσβαλλόμενον* denotes at 154A, so "color" at *Timaeus* 67C is to be taken not in the sense of *αἰσθητόν* (cf. *Theaet.* 156C) but in the sense of *προσβαλλόμενον*. The evidence is at *Timaeus* 67C-D. "Color" is described as "a flame which streams off from bodies of every sort and has its particles so proportioned to the visual ray as to yield sensation" (compare this with *Meno* 76E: "color is an effluence of form, commensurate with sight and sensible"). Earlier, we have explained merely how the visual ray arises (*Tim.* 45B-D). Now we must speak of how colors arise. Colors arise when the visual ray (the *προσβάλλον*) is encountered by "particles that come from other bodies" (*Tim.* 67D).

²² Cornford, *Plato's Cosmology*, p. 153, n. 1.

The function of these particles ($\varphi\lambda\delta\xi$ *Tim.* 67D) is precisely the same as that of the $\pi\rho\sigma\beta\alpha\lambda\lambda\mu\epsilon\nu\eta\omega$. The only difference is that the *Timaeus*, being in part a physical treatise, attempts to give "a reasonable account" of the structure of the $\pi\rho\sigma\beta\alpha\lambda\lambda\mu\epsilon\nu\eta\omega$, which would have been out of place in the *Theaetetus*.

Thirdly, there is at *Timaeus* 46A-C a detailed account of the mechanism of mirror-images. This description is an amplification of the brief allusions to mirror-images at *Sophist* 266 B-C. We have, in this instance, a progressive elaboration of the mechanism of mirror-image sensations in which the *Theaetetus*, the *Sophist*, and the *Timaeus* form a consistent whole. This conclusion follows because the mechanism of $\pi\rho\sigma\beta\alpha\lambda\lambda\omega$ and $\pi\rho\sigma\beta\alpha\lambda\lambda\mu\epsilon\nu\eta\omega$ fits the description of mirror-image sensations in the *Sophist*, (see above, p. 316) and this account in turn is further elaborated in the *Timaeus*.

5. Agreement With the Theory of Embodied Forms.

The fifth argument that the theory of sensation in the *Theaetetus* is Platonic turns upon the point that the theory of embodied Forms, prominent in the *Phaedo*, the *Republic*, the *Cratylus*, and the *Timaeus*, criticized but not renounced in the *Parmenides*, and assumed at *Lysis* 217D, does not contravene the theory of sensation in the *Theaetetus*. On the contrary, it is only in the light of the *Theaetetus*, *Timaeus*, *Philebus*, and *Sophist* that the theory of embodied Forms can be amplified and understood.

At *Lysis* 217D, white hair is said to be white by the presence of whiteness in it. At *Cratylus* 386A and E, and at 387A, things are said to possess their own permanent essences. At *Republic* 510D, mathematical Forms are said to inhabit physical models. At *Phaedo* 102D-104C, (a) greatness and smallness in us are contrasted with greatness and smallness in the abstract; (b) heat in fire and cold in snow are distinguished from heat and cold *per se*; (c) oddness in odd numbers is contrasted with absolute oddness;³¹

³¹ This is not, strictly speaking, an example of embodiment, because numbers are not bodies. It is rather an instance of blending (the uni-

and (d) it is maintained that "not only do essential opposites exclude one another, but also concrete things [πράγματα] which, although not in themselves opposed, contain opposites" (my italics). At *Parmenides* 130A, Socrates believes "that there is such a thing as Likeness itself apart from the likeness that we possess, and so on with unity and plurality." Finally, the *Timaeus* makes allusions to "the things that pass in and out of the Receptacle" (49E), these being "copies" of eternal Forms (50C), or alternatively, "likenesses" of the intelligible (51A). At 52A the eternal unchanging Form is contrasted to "that which bears the same name as the unchanging Form." I take it that "that which bears the same name" designates the σώματα in the world of Becoming. To physical fire we give the name "fire" because it possesses "such and such a quality" (*Tim.* 49L). I conclude that "the things that pass in and out of the Receptacle" are identical with whatever is meant by "such and such a quality." My view is that these are not ποιέταις but Forms fused within flux; in short, they are embodied Forms, "for these, and not the ποιέταις, are likenesses of the intelligible Forms."²² The presence in things of embodied Forms ("copies" of the intelligible Forms) makes it possible to name the things (cf. *Crat.* 388B, 394D, 424A; *Soph.* 261E).

We have agreed to assume that the *Parmenides* and the *Timaeus* contain Plato's mature thinking. Because the theory of embodied Forms is repudiated neither in the *Parmenides*²³

versal number, three, blending with the higher universal, oddness) than of participation.

²² See the reference to Proclus in Cornford, *Plato's Cosmology*, p. 183.

²³ Notwithstanding the difficulties of participation, the point remains that without embodied Forms the Zenonian paradoxes of predication are unanswerable (*Parm.* 128E-130A). There can be no naming apart from discovering the essential attributes of things (*Crat.* 424B, *Tim.* 49E). *Epistles* 342B speaks of the "real thing," "its name," its "definition," its "image," and the "knowledge" we have of it. The "image" of the Circle is the circle we draw and rub off. It is not, however, the "image" but the Circle that the mathematician wishes to define (cf. *Rep.* 510D). *Laws* 895D mentions three of the five factors named above: οὐσία, λόγος, and οὐσία. *Cratylus* 413A seems to be saying that no definition is possible under the extreme Heracleitean theory that nothing has any permanent constitution. Finally, the *Timaeus* reiterates the position in the *Parmenides*. The Receptacle is said to partake "in some very puzzling way of the intelligible," even though this participation is very hard to understand (*Tim.* 50B).

nor in the *Timaeus*—nor, for that matter, anywhere else in Plato's dialogues—I conclude that Plato offers it in all earnestness.

Among embodied Forms I distinguish three varieties:²⁴ those which determine (a) the Metaphysical (and Logical), (b) the Moral (and Aesthetic), and (c) the inner, non-sensible Physical constitution of things. Under (a) we should include Being, Motion, Rest, Sameness, Otherness, Unity, Plurality; under (b) Good, Beauty, Measure, Proportion, Justice, Temperance, etc.; under (c) only those embodied Forms which are the hypothetical,²⁵ latent δύναμεις responsible for the sensible *physical* behavior of *physical* objects. The activities of πάσχειν and ποιεῖν in sensation, for instance—and the interaction of fire and snow (*Phaedo* 103E)—would be instances of physical activity. These activities are explained as being due to the intrinsic physical organization of physical objects. The intrinsic physical organization of the πάσχειν is its δύναμις πάσχειν, of the ποιεῖν its δύναμις ποιεῖν, of snow cold, and of fire heat. I am arguing that the intrinsic physical constitution, or, synonymously, the latent δύναμις, of a physical body is identical with its geometrical structure as it is described in the *Timaeus*. In brief, it seems to me reasonable to believe that embodied Forms of type (c) are nothing but geometrical structures.

It should follow, if I am correct, that for Plato "sensible" embodied Forms are not sense-data. They are nothing like Santayana's "essences" in the role of sense-data. The embodied Form is a latent δύναμις. It inheres in what, at *Phaedo* 103B and *Cra-*

²⁴ I resort to this artificial classification for the sake of clarity. The distinction is artificial in the sense that for Plato there is no clear-cut and exclusive disjunction between (a) and (b). The classification serves to make it clear that the discussion is limited to embodied Forms only insofar as they enter directly into the causal factors involved in the mechanism of sensing. The embodied Forms corresponding to (a) and (b), even if they are said to be embodied in some sense (and to determine in what sense would be irrelevant and cumbersome), are, nevertheless, not the sort of latent δύναμεις which, under certain conditions (e.g., sensory situations), become acting physical δύναμεις (e.g., προσβάλλων and προσβαλλόμενον). There is no ποιέιν which is directly linked with embodied Being or embodied Good as there is a ποιέιν directly linked with heat in fire.

²⁵ See *Tim.* 59D, 29D.

tulus 386D-E, are called πράγματα, and at *Theaetetus* 156A are called κυρίσεις having the δύναμις πάσχειν and ποιεῖν. In sense acts, when confronted with a πάσχον, the latent δύναμις ποιεῖν in the ποιοῦ manifests itself as the acting δύναμις, the προσβάλλον. The impact of προσβάλλον and προσβαλλόμενον fuses these δύναμεις into a compound, φορά, and this compound includes ποιέτης, whose mental correlate, the ποιέτης₁, is a sense-datum. This last, and not the latent structure, is the thing comparable to "essence" as datum in Santayana, but with this important difference, that Santayana's "essences" are "concrete universals." Plato's sense-data are unique particulars.

I pass to the argument. Let us recall that in the *Theaetetus* (156A) the metaphysically postulated κυρίσεις having the powers of πάσχειν and ποιεῖν were said to be centers of physical activity. For Plato, the class of the physical comprises elements and their compounds. *Theaetetus* 157C speaks of "individuals" and "assemblages of many." The sense is not clear, but we conjecture that by "individuals" Plato may mean elements, and by the "assemblage of many" the compounds formed from them. *Philebus* 29A and *Timaeus* 31B-32C name four elements: fire, water, air, earth. *Timaeus* speaks of the elements as the materials which the demiurges "puts together" (*συντάσσει*) to form the body of the cosmos. The *Philebus* (29BC) agrees with the *Timaeus* that particular objects inhabiting the cosmos are constituted of the same (though less perfect) physical ingredients that form the body of the cosmos. The elements are constructed by imparting to them fixed geometrical forms (*Tim.* 53C-55C), and inasmuch as the compounds are formed of these Form-endowed elements (*Tim.* 58C-61C), it follows that all things physical (elements and compounds) are Form-endowed. The immanent (geometrical) Form accounts for all the physical activities of physical objects, their physical transformations and their behavior in sensory situations (cf. *Crat.* 386E-387A).

I take it, then, that the κυρίσεις mentioned at *Theaetetus* 156A are identical with the Form-endowed elements and their compounds described in the *Timaeus*. It is to be remembered that on the assumption of unrestricted and lawless flux there can be no recognizable and namable sense-objects (*Theaet.* 182D). But on

the view that Flux is Form-endowed, the account of the physical mechanism of sensation (*Theaet.* 156A-157C) becomes at once coherent and intelligible. Plato nowhere repudiates the latter version of the theory. On the contrary, he presents, in the *Timaeus*, a theory of sensation which we have shown to be in thorough agreement with the consistently statable version of the theory in the *Theaetetus*. On the basis of this agreement, I find it reasonable to conclude that the metaphysically posited *κύριατες* at *Theaetetus* 156A are identical with the physical objects whose hidden geometrical constitution is theorized in the *Timaeus*.

According to the description given at *Timaeus* 53C-55C, the embodied Form is a geometrical structure. It is postulated to explain a physical object's behavior toward other physical objects, including sense-organs. At *Republic* 477B, Plato says: "In a δύναμις I cannot find any of those qualities, such as color or shape, which in the case of many other things enable me to distinguish one thing from another." At *Sophist* 247D and *Theaetetus* 155E, δύναμις are said to be real and invisible. A δύναμις can be discovered and distinguished from other δύναμις only by looking "to its field of objects" (*Rep.* 477B ff.). This amounts to saying that the hidden power (δύναμις) is postulated to explain the observed physical facts.

We take the case of fire as a convenient paradigm. Fire, as a physical body, possesses δύναμις (*Phil.* 29B). In order that a thing be properly namable by the word "fire," it must exhibit certain observable properties. These observable properties (sensed-heat, sensed-fiery colors, etc.) are sensory clues for mentally apprehending the presence of physical fire. Now the *Timaeus* proposes that the sensorily apprehended quality is caused by the presence in fire of some permanent structure. "We must give the name 'fire' to that which is at all times of such and such a quality" (*Tim.* 49E). In fire, this hidden structure, this essential quality behind appearances, is called heat (*Tim.* 61D). This account coincides exactly with *Phaedo* 103D-E, where heat is an embodied Form. It is the "essential opposite" of cold which is the embodied Form of snow.

As an embodied Form, heat is a specific geometrical structure. This structure is the hidden and essential nature of fire. In this

sense, heat is a metaphysically latent *δύναμις*. It is not a sense-datum (e.g., sensed-heat). Two centers of physical process interact in a manner determined by the latent *δύναμεις* which they embody. These embodied *Forms* determine the *laws* of physical activity. Confronted with its "essential opposite," cold, the structure, heat, disintegrates, causing the simultaneous disintegration of the structure, cold (*Phaedo* 103E-104A). This is the mechanism behind the fact that snow puts out fire and fire melts snow (cf. *Tim.* 56C-57C). The discontinuity of change in the *Phaedo* (103E) is explained in the *Timaeus* as being the abrupt transformation of one structure into another because of the radical alteration of the geometrical pattern which defines the nature of the physical object (*Tim.* 56C-57C).

If, instead of meeting an "essential opposite," heat should come "within range" (*Theaet.* 156C) of a sense organ such as the skin, the latent *δύναμις* heat becomes an acting *προσβαλλόμενον*. There is, in this case, no fundamental transformation. There is only a mutual interaction between *πάσχον* and *ποιοῦν* during which *πάσχον* and *ποιοῦν* undergo an *ἀλλοίωσιν* much less radical than the reshuffling of basic particles whose result is outright transformation into another pattern.^{**} "The fineness of the edges, the sharpness of the angles, the smallness of the particles, and the swiftness of the movement" of fire cleave and pierce the skin particles which they encounter, and the particles of fire and of skin together produce the characteristic sense-object, sensed-heat (*Tim.* 61D-E).

Once again, the *Timaeus* gives an account of the physical mechanism of sensing which fits exactly the general account of sensing in the *Theaetetus*, while at the same time it provides an insight into the distinction between "qualities connected with sensation" (*τὰ παθήματα στα αἰσθητικά*, *Tim.* 61D)^{***} and their unseen causes, those formal geometrical properties (*δύναμεις* as embodied

^{**} The motion of unlikeness as *total* difference (*Theaet.* 159A) accords only with the extreme Heraclitean conception of flux as being utterly chaotic. We have already suggested that *χώνης*, for Plato, means not chaos but orderly process, and the present interpretation of the mechanism of sensory and mechanical *ἀλλοίωσις* corroborates this view.

^{***} Cf. *Theaetetus* 156B for a list of such "qualities."

Forms) which bodies are assumed to possess independently of their relations to sensing organs."²⁸

With respect to "qualities connected with sensation," Plato is an objective relativist. He appears to have transformed the Anaxagorean and Heracleitean theory of the "coexistence of opposites"²⁹ into the doctrine that sensed-qualities, being relational, do not inhere in the ποιόν τι. When one man feels hot and another cold in the presence of the same wind (*Theaet.* 152B) the wind itself is not both hot and cold inherently, but only relative to the conditions under which the sensing organ is sensing (cf. *Phaedo* 103E-104A). Among these conditions are the inherent and non-sensible geometrical structures of material objects. The felt cold is not an inherent quality of the wind but a function of a relevant inherent quality, this being a part of the unfelt and theoretical structure of the material wind.

The conclusion of all this is that the δυνάμεις ποιεῖν and πίστης (*Theaet.* 156A), "whiteness" in white hair (*Lysis* 217D), the "opposites" contained in πράγματα (*Phaedo* 104B), the "permanent essences" things are said to possess (*Crat.* 386A-E), the δυνάμεις said to inhere in fire (*Phil.* 29B), and the "color which may be there in the objects" (*Rep.* 507D), are, on my interpretation, all embodied Forms, latent δυνάμεις inherent in substantial things. The "probable" account of their Formal geometrical structure is given in the *Timaeus*. They are insensible Formal properties or laws present in things. Πράγματα as φύσις are Form-infused flux, and it is its embodied Form which gives each φύσις not only its metaphysically formal constitution but also makes it a possible object of perception, a possible ποιόν τι.³⁰ It is in virtue of the

²⁸ See Cornford, *Plato's Cosmology*, pp. 183 and 205, especially the references to Proclus.

²⁹ For a discussion of this see Cornford, *Plato's Theory of Knowledge*, pp. 33-36.

³⁰ These results resolve the puzzle of the dice (*Theaet.* 154B-155C). We have, on the one hand, the πράγματα as φύσις which has its own structure. Each one of six dice is one and together they are six. On the other hand, an individual or a group of individuals has relational properties. Six dice are less than twelve, more than four. The theory of sensation so far developed makes it abundantly clear that there is no more contradiction in the same wind's being cold to me and warm to you (*Theaet.* 152B) than

embodied Form that a *χίνησις* (*Theaet.* 156A) emits a προσβαλλόμενον. The resultant sensed quality (*ποιότης*) is thus causally related to the embodied Form. We may call the embodied Form an *inherent* quality and the *ποιότης* an *acquired* quality of the physical object. The adjective "acquired" is meant to indicate that this type of quality is acquired within the sensory complex, and that it disappears when the relational complex dissociates. Both the inherent and the acquired qualities are objective but the acquired quality, i.e., the *ποιότης* "moving in the region" of the *ποιόν τι* (*Theaet.* 156E, 159E), has its mental counterpart, *ποιότης*, which is private to the mind sensing it. *Ποιότης* is the sense-datum or *sensed* quality.

I conclude with a brief summary of the complicated theory of sensation we have been describing. Let us take vision as paradigmatic. The eye and the things it sees are, metaphysically speaking, Form-endowed loci in dynamic interaction. When the eye is within an appropriate distance of the object, it emits an energy-ray attuned to an energy-ray emitted by the object seen. The rays fuse into one and form a continuous pencil of energy from the eye to the object. At the eye end, the energy-ray is a stimulus to which there corresponds a mentally apprehended sense quality. At the object end, the energy-ray is a structure qualifying the object. The structure itself is an imperceptible theoretical entity. It is paired with the eye-stimulus and with the mentally apprehended sense quality. The eye does not select a quality out of a set of pre-existing characteristics of the object. The eye is not a passively recording camera. It contributes to the formation of the objective structure which is mentally apprehended by means of a sense-datum. Given the nature of the eye, and of the thing to be seen, and holding the state of the apprehending mind constant, the nature of the sense-datum is determined. The

there is in the same group of dice being less (than twelve) and more (than four). The multiple-relation sensory complex and the three groups of dice are examples of a situation in which individual terms have their inherent as well as their relational properties.

appearance of what appears is partially conditioned by the seeing organ. There are no independently existing aspects which appear either willy-nilly or as the result of selective attention. The sense-quality is existentially and qualitatively dependent upon the mind and body of the sense organism.⁴⁴

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⁴⁴ I am grateful to Dr. Epaminondas Panagopoulos of the Wayne University History Department for generous help with checking the Greek.

WEISS'S DOCTRINE OF CONCERN

ROBERT W. BROWNING

SET in a metaphysics of evolution, expressly devised to avoid both reductionism and "unwarranted addition," Paul Weiss offers us a new *De Anima*.¹ His speculative system² attempts both to recognize the general continuities which are presumed by evolutionary naturalism and the discontinuities which seemingly do emerge at various levels, perhaps most vividly apparent in cognition and moral activity.³ The resulting cosmological scheme is at once an organismism (taking account of sensitivity, reflexes, instincts, habits, perception and intelligence) and a quasi-substantialism (explaining persistence, expression, the unity of response, consistency of purpose, mind, self and guilt).

I

In order to stay within bounds, the present essay must be severely restricted. I have elected to focus on the notion of *concern*. Further, with respect to it, I aim—in addition to offering some exposition—chiefly to do two things: first, to raise queries about the evidence for the exemplification of the general notion; second, to focus more specifically upon the nature of alleged human concern and upon its relation to ethics. In both cases, the prime value of what is said may be to incite Weiss to a greater definiteness of articulation.

As a background notion commonly ascribable to all actual beings, the idea of "concern" affords Weiss continuity; in the operation of its actual exemplifications it accounts for novelty

¹ Perhaps most evidently in his *Nature and Man* (New York, 1947).

² Begun in *Reality* (Princeton, 1938), and carried further in subsequent writings.

³ See particularly *Man's Freedom* (New Haven, 1950).

and sometimes for radical discontinuity. The major concept of freedom in Weiss's cosmology is not an infinite, wholly vacuous freedom, a completely pure chance, lacking reference to any object or objectives; it is specified in concerns which do have reference both to other entities and to internal demands. Concerns are thus also strategic in the description of actuality and possibility.

The notion of concern is not only an interesting portion of Weiss's ontology; it is employed in determining the nature of selves, and is therein the ground of the ethical dimension. Indeed, derivatively, it seems to serve for Weiss as a theory at once of obligation, motivation and sanction. In it, somehow, man's duty and interest are universally reconciled; thus, one presumes, the old moral problems of egoism and of non-prudential regard for others are supposedly solved.

What Weiss offers here is at once something associated with a major tradition and something marked by much novelty, sufficient for drawing a good deal of criticism. To go to human nature for a basis (or the basis) of ethics is an old and respectable current in Western reflection. Perhaps this foundation is particularly appropriate to "naturalism," and possibly when naturalism gets a relatively adequate conception of how selves emerge and what they are, the stock-in-trade of idealists, existentialists and various artists of the realm of subjectivity will no longer be such a rich source of embarrassment as it still is. However, one may doubt the propriety of referring to Weiss as a naturalist. In any case, he contributes a number of slants to the long dialogue of systems, and some of his challenge to reconstruction is made at a deep level. If one uncovers very little proof, one does find much suggestiveness.

One may offer the blind guess that Weiss seized the originality in Whitehead's notion of subjective aim⁴ and acclimatized it to a quite different sort of epochalism⁵—an epochalism which is a quasi-substantialism. Presumably Weiss has felt that "creativity" must be assigned its locus in the acts of beings; such beings are

⁴ See *Process and Reality* (New York, 1929), particularly pp. 74 f., 108, 329-44, 420.

⁵ See *Reality*, pp. 184, 203-17, 230, 232 f., 259 ff.

not to be conceived as primarily actual in one creative pulse of inheritance plus subjective aim, but are beings normally antecedent to and normally continuing after each act, which nevertheless to some degree is an occasion of free self-formation. He found a conception of "concern" in Whitehead, but seriously amended and extended the notion in a reconstruction designed to meet what he felt were grave defects. Weiss has been moved by the feeling that an atomism of occasions destroys responsibility and guilt. Some of his objections may have had their origin far from ethics; some plainly arose in the metaphysics of ethics. Weiss may have underestimated the role of formal inheritances and non-substantial continuities in Whitehead's cosmology; in any case, Whitehead was highly alert to the problem (although perchance he was stimulated to be so by some of his bright students).*

No specific paternity is needed for Weiss's desire to embed his

* Of Whitehead, Weiss has written: "Though he has dressed his flux in rhythms he still has no entity which really persists. If the fundamental reality is creative passage, things can be but momentary accidents decorating events, and no matter how old a thing may be, we are bound to say that it is entirely new" (*Reality*, p. 208). The question which Weiss thereupon implicitly raises concerning responsibility is at least a legitimate query as to the locus of responsibility. For if, as Whitehead says, "No thinker thinks twice; and . . . no subject experiences twice" (*Process and Reality*, p. 43), this would seem to separate the doer of the crime from the arrestee. If responsibility is to be charged, it will have to be to the "enduring object" or more specifically to the inherited form of personal order and not to the momentary experiencer. Weiss, in effect, joins all those critics of Buddhism who argued the breakage of responsibility between the non-substantial lives of different so-called "incarnations" connected by a transfer only of energy and form.

To intimate that Whitehead was unaware of the problem would be gross distortion. It was one of the burdens of his later thinking; it enters into some of those passages which give one the same feeling as Part V of Spinoza's *Ethics* (e.g., *Adventures of Ideas* [New York, 1933], p. 267). He is ingenuous about it: "In our account of human experience we have attenuated human personality into a genetic relation between occasions of human experience. Yet personal unity is an inescapable fact" (*ibid.*, p. 239). Cf. pp. 240 f., 262 ff., 271; cf. also *Nature and Life* (Chicago, 1934), pp. 38 ff. Again: "We cannot dismiss Personal Identity without dismissing the whole of human thought as expressed in every language" ("Immortality," *The Philosophy of Alfred North Whitehead*, ed. P. A. Schilpp [Evanston, 1941], p. 690).

theory of *conatus* in an evolutionary account. If the *De Anima* is not quite a precedent, evolutionism is ubiquitous in the mother-sea from whence our intellectual questions come wriggling, and Peirce (fragmentarily), Alexander and Whitehead had set examples.

II

Weiss's doctrine of concern may be followed in each of his three major works, *Reality*, *Nature and Man* and *Man's Freedom*. In the first book, the conception is not yet baptized; the middle book is the best source for presentation of the general notion; the last book is necessary for further delineation of the differential properties of man's concern.

Let us at once introduce a few points from the first of these volumes, both to justify our intimation that some notion of concern is implicitly present and to indicate a few lines of orientation.

In our author's ontology, there is a plurality of real individual beings. Temporality is taken seriously; change occurs since these beings "act"; their respective presents are tensional toward the future, or toward the distributively possible futures. Individual things, inorganic and organic, "act" in order to realize the object of their "concern," whether it be so labelled or not.

For present purposes, the reader of *Reality* should underscore the discussions of the ontological individual, its persistence, its privational possession and its "mellontological" causation. He should recognize the intent, in a philosophy of process, to acknowledge substantial individual being, and note the contention, in a world of the multiplicity of such beings, that each real unit is in some sense "unlimited in its *total* spread."⁷ The individual

⁷ P. 182. Also, "Were there no individuals, there would only be the abstract which, because there were no individuals, could not be at all" (*ibid.*, p. 176.) "We cannot say what individuates an individual . . . because individuals . . . are not consequences of the combination of aspects of themselves. . . . Like living and dying, sleeping and waking, the being oneself is a private matter . . ." (pp. 177 f.). The privacy, however, does not mean that the individual is a *Ding an sich*; it is continuous with its characters.

being is said to have a "focal region of maximum intensity" where the individual is *actual*; it also is said to be "outside itself in the shape of an extensively ordered series of intensities, pointing to other actualities beyond; a mark of the fact that the actuality is contingent and incomplete, incapable of standing entirely alone" (p. 183). Here the quasi-substantialism is already qualified with an organicism or universal relationism, and the basic postulate of the present incompleteness of the individual is affirmed. To each real entity the rest of the world is the counterpart in some sense—perhaps (as we shall later note) in the sense of being the field of objects for its uninhibited aggrandizement. The *virtual* aspect of the individual is peculiarly declared to be "entirely private," while its actual aspect is at once private and public. I say "peculiarly," because in some phrasings it seems that the virtual vectoral spread of the individual is not only inner but is the presence, so to speak, of the individual to other individuals in its being the "ground for all the extensive relations which may stretch between them." * "Were an individual to appear in the farthest corner of the universe, every other would be instantly related to it," not because of an antecedent space but rather because of the reciprocal capacities of such individuals for the relations which constitute fields and space.

If this language may seem to a reader to speak of an aspect which is simply "there" and not "dynamic," let him be reminded that the individual beings are striving entities, continually effecting change. "*To be is to be incomplete*; an actuality with its equilibrium outside itself; a reality whose boundaries lie somewhere in the future. . ." (p. 209). And: "Because to be is to be incomplete, each being must fail to complete itself and time must go on without end" (p. 215). Again: "All individuals, organic or inorganic, are in process because all are engaged in the attempt to make the privationally possessed actually part of themselves" (p. 261). Privational possession seems to be approximately

* P. 182. One notes, for example, the phrasing in the following: "An actuality *in which another's virtual region terminates* is abstractly future for the actuality out of which that virtual region vectorally originates" (*ibid.*, p. 223; *italics added*).

synonymous with a generalized notion of need, and each being apparently is held to need all other beings; thus, "The rest of the universe is now privationally within it; whatever lies outside it is but a part of its abstractly complete nature."⁹ It would not be rash interpretation to say that here is something very like the doctrine of concern; here is the context that contains or calls for it, or at least here are notions closely associated with it. Perhaps the abstractly complete nature is the ground of the concrete demand and nisus to grow toward fulfilment, and such a demand is ineffectual unless it is specified with respect to the possibilities co-determined by its nature and that of circumambient other real entities. In the later books, the notion of concern would seem to have differentia in some way requiring it to be more specified, or at least allowing it to become more specific, than a promiscuous privational possession of all things. (Also, possibly only selves are held to be so all-comprehensive in their concerns.) Already in *Reality*, however, Weiss talks about degrees of pertinence of different items in an abstract future, and proceeds to sketch the framework of a theory of valuation in the form of four different dimensions or hierarchies of the bearing of entities and possibilities upon a given entity (pp. 251, 256 ff.). But we cannot go into these details here.

The account of process is a "mellontological" theory of productive causation. "The effects in the actual future are produced in the process whereby a being becomes actually future; they are the product of an actuality's effort to make its abstract future part of its being" (p. 236). The scheme is not devoid of some affinity with an Aristotelian doctrine of final causation, as Weiss himself notes, but it is without the fixity of an unchanging formal cause and without—it would sometimes seem—characteristic limits to what is demanded by a member of a species. Instead, as Weiss later explicitly notes, the final causes—considered in other than the

⁹ P. 247. "The actual future is not . . . part of an endless, fixed chain of discrete extensions relentlessly moving towards us; it is a partly unpredictable result, produced by the action of beings endeavoring to assimilate others now abstractly future to them" (p. 224).

most abstract way—change with the content of the universe."¹⁰ And whether each being is infinitely predatory, or whether each being (in contrast, it seems to me) contains consciously or unconsciously "mystical experience," or whether in some fashion both of these assertions are maintained, as different texts suggest, is one of the questions we shall later wish to ask of Weiss.

For our present inquiry, *Nature and Man* is the best source. It is the first of the major works in which the notion of concern is self-consciously pursued; in *Reality*, it had not yet risen to genuine explicitness, and in *Man's Freedom* it is presupposed and used. In *Nature and Man* the evolutionary role of mutation in concern is delineated. *Reality* was almost atemporal in its perspective—above deciding whether once there existed only simple units without supervening wholes, whether eventually there will only be indivisibles, whether there always have been supervening individuals as well as incorporated indivisibles, and when the divisible unities have been inorganic and when "organic."¹¹ *Nature and Man* is a philosophy of evolution, sketching at least the progressive development of some characteristic formations of our cosmic epoch.

For answers to important questions about man's concern, however, and how it is the ground of the moral dimension, recourse must be had to *Man's Freedom*.

III

Before centering attention upon the concern distinctive of man, it is desirable to take a synoptic glance at the notion of concern in general and at its matrix meaning in Weiss's evolutionary cosmography.

A concern—and each being has a concern—is a "way of reaching from the concrete present into the abstract future," enabling the being to focus on that future (which is common to all

¹⁰ *Nature and Man*, p. 55.

¹¹ *Reality*, pp. 196 ff.

beings) in an individualized way, "in the shape of a limited, pertinent possibility."¹²

When an inanimate thing is "frustrated," it is most likely to change into some other kind of inanimate thing; but it may change its concern in a certain way—such that it is "able to act on others in terms of the goods it prescribes for them"—and thus become a living thing, expressing a "concern for goods pertinent at least to offspring or kind."¹³ Thus is the origin of life explained. In affirming that the living can arise from the non-living, Weiss cautiously points out that he is not dogmatically asserting that there was a time when there was no life, for there may have been living things "whose bodies cannot be or were not fossilized." He observes the paradox that Aristotle, in non-conformity with his supposition of fixed divisions, asserted spontaneous generation and thus was "right in principle," whereas Pasteur, right in selected detail, held what was contrary to "the essence of modern science."

"Higher living beings," in Weiss's philosophy of evolution, "arise from lower ones for the same reason that the living arise from the non-living—the bodies of the lower beings effectively resist the expression of their concerns."¹⁴ Weiss observes that useful little variations do not force a change of essential nature, whereas radical changes in the organism "remain useless or dangerous unless accompanied by a change within." Contrary then to the theory of evolution by the preservation of random useful variations, he concurs with Bergson and others that some different account is needed for the origin of complex organs. Indeed, "It is thus not the useful but the useless or dangerous mutations which mark the points at which new types of beings first emerge," for their shock "challenges the being to change its nature" (p. 101).

Much of this sounds quite anthropomorphic, or at least reminiscent of Whitehead's extension of "higher" categories

¹² *Nature and Man*, p. 53.

¹³ *Ibid.*, pp. 70-76.

¹⁴ Weiss rightly asserts that just because there is "no place where a clear line can be drawn between the lower and the higher subhuman beings" does "not mean that we cannot distinguish the more obviously higher from the more obviously lower. . ." (*Nature and Man*, p. 100).

downward in an effort neither to deny features of experience which are lived nor to have a dualistic (bifurcated) break in nature. Most understandably, Weiss, like many of the rest of us, wants both continuity of explanation and recognition of discontinuity of the natures of things. His philosophy of evolution is then not too shocking in being both mutationistic, in asserting sudden jumps, and Lamarckian, in counting upon an inner adaptive responsiveness to the challenge of ineptitude of body or resistance of environmental obstacles. Almost in the tradition of "bathmism" and of Erasmus, Darwin and Goethe, the treatment of the steps of real evolution is suggestive of Lamarck's second law, concerning the origination of new organs from felt inner want, and is not wholly devoid of similarity to Schopenhauer's allegation of the objectified presence of differentiated will in the body. One recalls the "ups-and-downs" of this notion, re-incarnating in new forms, through more than a century. Accordingly, one is not unprepared to meet new revivals of the theme, although one recalls, for example, a man with the authority of T. H. Morgan coming to a strong anti-Lamarckian position in his *Theory of the Gene*, after having obtained initial superficial evidence in its favor.

Despite the abstract continuity affirmed by his doctrine of the ubiquity of freedom, and despite his denials of the body-mind dualisms of Descartes and Kant,¹³ Weiss recognizes that organisms differ "radically" from the inanimate and he asserts that man differs from other organisms by an equally wide gulf "because of his capacity to grasp the total nature of things."¹⁴ Indeed, he declares, "Nature is more an affair of fits and starts, of breaks and bumps, than of smooth and easy passage, of continuity and harmony."¹⁵

In living beings, unconscious and conscious valuation arises. When their structure is somewhat stabilized, living beings "have a native wisdom driving them outside situations which have no

¹³ "We cannot put a man's body into a determined world and keep his soul outside, without making him, as both Descartes and Kant were forced to do, into two distinct beings" (*ibid.*, p. 27). Cf. pp. xv, 110 ff.

¹⁴ *Reality*, p. 285. However, there is a sense in which he seems to hold that all things prehend all things—though of course not consciously.

¹⁵ *Nature and Man*, p. xvii.

pertinence to their welfare, towards those which would benefit them, and away from those which would harm them." This wisdom is "rooted deep within them, quite below consciousness, untaught by either parents or experience." Weiss rejects the view that this wisdom lies in "the juices and tendons," for it "seems to concern the welfare of the whole" organism. Thus he espouses the view that "the organism has a set of native and unlearned drives appropriate to the welfare of itself and its kind."¹⁸ One wonders if these drives are part of the denotation of "concern," or are the native springs of concerns, or neither. Probably they are conceived as manifestations of concern, although questions of relative generality and relative specificity thereupon follow. One is also curious as to whether some of these characterizations are held to apply to plant life; except for the physiological reference to "tendons," restriction to animal life is not apparent.

"Sensitivity" names the condition of being keyed to act in terms of one's decisions—decisions that define how much one will adhere to one's own concern and how much one will accept the prescriptions which the concerns of other beings lay upon one. The range of sensitivity is not exactly confined to the realm of competent action (there would then be no distress and despair), but there is a general correlation. Extent of range is a rough measure of the level of life. The elm is "sensitive to soil, air and sun," but insensitive to axes and men.¹⁹ Apparently man's concern includes—or perhaps, uses—much sensitivity and purpose. Sensitivity, of course, need not convey any eulogistic flavor of sympathy; it need not even be conscious. A body can be sensitive

¹⁸ Ibid., p. 91. Of course, this wisdom is not "complete"; it is tinged with "folly." Lack of opportunity, including engrossment in the struggle to exist, prevents as much folly from occurring as would otherwise obtain. Successful habits normally check folly (as well as exhibit it in highly novel situations). Similarly with the emergence of an order of dominance among needs. As one moves up the ladder of life, sensitiveness and purposiveness are seen to play greater roles in checking folly (pp. 93 f.).

¹⁹ P. 96. Oddly, purposiveness names the tendency of an organism "to act in the light of what it sensitively discerns, so as to realize an unknown good" (p. 97). A living being below the level of man "is blindly purposive, purposive without a purpose, and therefore does not act with the nicety which the fulfillment of its ends requires" (p. 98).

without being conscious; a minimum sensitivity is necessary in order for it to be alive (p. 103).

All living beings have some kind of tension between their concerns and their changing bodies. In conscious beings the changes in tension are explicitly felt—in pleasure and pain. Consciousness requires an organism's capacity at once to vary its approach and to adhere to and to change its concern (p. 106). "Consciousness arises when sensitive beings freely keep their concerns steady despite changing bodies" (p. 102). Pain is said to register the fact "that the being no longer controls the destiny of that which it had made an intimate part of itself, that its concern cannot be expressed where it had been expressed before." Pleasure "is a sign that one's concern is being expressed in one's body more adequately than it had been before. . . . Pleasure is predatory."^{**}

Perception is discriminated as a "response to a distant object through the agency of a sense organ" rather than through the vague sensitivity of the body as a whole; apparently perception does not occur without an interest. And the role of consciousness, functionally speaking, seems to be to bring highly relevant spontaneous responses to bear upon the tensional situation—and thus to secure a "free" response. Although Weiss makes no deferential remarks directed toward the patent rights of various functionalists, the reader does think at this point of the cluster of ideas associated with the instrumentalists' phrase, "creative intelligence." Weiss's emphasis is that consciousness (which arose "because the body resists a sensitivity") "is a means by which an ineffective sensitivity becomes effective once again" (p. 116). There is presumably more psychical apparatus being deployed in Weiss's account of man than in that of the more behaviorally minded pragmatists; but it is appropriate to recall on occasion that Tufts, Dewey and Stuart recognized the emergence and reconstruction of ends as well as the adaptive action of habit-intelligence in service to presiding goals.

^{**} p. 107. Strangely, ecstasy is declared a harbinger of death no less than anguish; perhaps this is hyperbole for saying that traumatic experiences are stimuli for starting beings on new careers (pp. 116 f.).

Space does not permit even the briefest sketch of Weiss's account of the organs, reflexes, instincts, habits (including the use of signs), emotions, will, intelligence and mind.²¹ With a

²¹ It may however, be useful to devote a footnote to some highly condensed remarks upon signs and upon mind.

"Because a concern is expressed in the body, there is life in that body, and eventually habits and techniques" (p. 164). Among the techniques which Weiss recounts is the employment of signs, upon which he makes a number of interesting definitions and assertions (cf. Ch. IX). However, he strangely says: "Man's ability to use signs, verbal or nonverbal, provides no clue to the existence or nature of his mind" (p. 193). The basic orientation of the discussion seems to exhibit that "futurism" which is supposedly a pragmatic characteristic. "A sign is any entity, the acknowledgement of which prompts one to attend to something else" (p. 166). "A sign signifies something general, indeterminate, the future as it now is" (p. 167). "The object of every sign is thus a part of the future. . . A sign is referred to an object through the medium of an expectation, bodily or nonbodily" (p. 168). But Weiss amuses himself at the aspect of Mead's theory whereby the lion's roar must scare the lion a little (p. 181). Cries, calls and words are to be distinguished. "Vocal occurrences are *outcries*." Calls are "vocal salutations accompanying signs of expected possible acts of others" (p. 178). "We cry out at things, call to animals, and use words with men." Although the same sounds might be used, the sign-functions are of course radically distinct (p. 179). The ability "to use signs with intelligence" is "the result of a high-grade ability to be sensitive to the concerns and objectives of others" (p. 177). Of particular interest is his discussion of "metaphysicals"—terms which indicate what it is to which a complete expression is to be referred. They may be nouns, conjunctions, verbs, metaphors, etc. They convey universes of discourse (p. 183 f.).

Mind presupposes intelligence. Intelligence is said to be the ability to relate what is perceived to what is sensitively discerned. Minds are not inherited; each man must acquire his own (p. 204). They are usually acquired in infancy, and can be acquired only in society, for they require at once vital social sharing and intellectual independence. With mind, what is "sensitively discerned is treated as having a different weight for others than it has for us. . . A mind is man's reward for being faithful to his own intelligence while living as a vital member of a group" (p. 207). There are levels of mind. The infant learns to "treat perceived beings, in whose concerns' it does not vitally participate, as beings concerned with what it expects" (p. 208). The scientific, the artistic, the philosophic minds emerge as the diversity of experience "drives the individual," under pain of internal division, "to find a higher ground in terms of which he can bring the separated items together" (p. 211). The object of the philosophic mind is "the unitary truth which all beings and activities exhibit," which seems to be, basically, that "every actuality is finite and is concerned with a possible future good (p. 210). "The work of mind is inference"—and

discussion of the concept of mind and of the notion of the self, one moves above the animal level.

Possession of a psyche is not distinctive to man; animals—apparently all animals—have psyches. Psyches are “unified feelings, correlates of pleasurable and painful objects,” and are existent only when conscious (p. 119). Possession of a self, however, is denied to animals.

The focal summary point is that living beings are distinguished from the inanimate by the character of their concern; and selves are distinguished from animal psyches by the character of their concern. Although the “frustration” of inanimate things sometimes results in living beings, and although a self comes to be in the natural course of things, it would be difficult to exaggerate the significance of these leaps. With life there has emerged a concern for offspring and kind (presumably this holds for vegetable as well as animal life); with the self there has emerged a “concern for an all-embracing good.”²²

IV

A “human” embryo is started by the “concerned cells” of the parents; it is at first a “low-grade living being” but becomes “a new type of being, a being with a psyche” when it becomes conscious (p. 143). But, due to the growth of the body, it—whatever the “it” is—is forced almost immediately to change its concern, which it does, with a degree of uniformity which would seem surprising to us, by achieving selfhood. It becomes a being able to “use its body for non-bodily ends.” “The change is from a concern directed to the good of the individual or its kind

inference is conceived very broadly to include all termini of mental activities, using “countless contingent principles,” so-called “necessary inference” being an “ideal rather than a fact” (pp. 211 ff.).

²² P. 253. “The subhuman are unconcerned with what other beings need in order to be perfected. . . . It is of the essence of man, in contrast, to endeavor to help all others to be as perfect as possible in consonance with the perfection of the rest. . . .” (p. 264).

to a concern directed to a good pertinent to other beings as well" (p. 144).

Weiss considers as similar the questions, "How did man first arise?" and "How does an individual come to be?". "Unless men were nothing more than animals the bodies of the first human embryos must have resisted their concerns in ways which the bodies of previous embryos did not." The resistance "forced those concerns to change" and, consequently, the embryos "matured as previous embryos could not" (p. 140). Freedom was exhibited in the change. In view of this account of how we become men, one might express (though one's basis for estimate must be very rough) surprise that foetal acts of freedom do not produce many more sports and monsters. People do not impress one as very adventurous when they are older; yet statistically they must have, by and large, been highly "free" when "they" were animal bodies, although happily this freedom is usually exercised in a similar direction.²²

I am in sympathy with Weiss's expressions in which idiots are spoken of as "unfortunate," but on Weiss's own basis it is not clear that he should so refer to them. It would be plausible for him to assert that idiocy is due to a grossly deficient employment of one's freedom, or to an atavistic response to challenge, particularly when "one" was foetal or embryonic. There is, to be sure, a theory current in psychiatry that some feeble-mindedness is a regressive response rather than a symptom of deficient endowment.

It is interesting that Weiss wishes to treat man as "natural," but is anxious not to class him as an "animal." After rightly observing that man's animal origin does not entail that "he is nothing but an animal," he declares: "It is possible for an animal to become a man, though a man is not and cannot become an animal" (p. 124). Again: "Man cannot be an animal in whole

²² The doctrine is not clear to me here. Much of *Nature and Man* suggests the real free adventure of each foetus, each embryo, each infant. In *Man's Freedom*, Weiss on one occasion remarks that man's existence is due to "the effort of an ape-like being which in the face of hindrances once made itself subject to a possibility more comprehensive than those which it had ever faced" (p. 24; italics added).

or in part." This surprising statement is predicated upon affirmation of the hypothesis that man's body is "nonanimal in nature" since it is "quickened by a single human power" (p. 128).

Weiss reviews many apparent differences between man and (other) animals, but most of these fail to mark man as "a radically distinct type of being" in accord with the criterion that "one type of being differs from another by virtue of a capacity which all its members and no other beings have."²⁴ To elucidate the "essential" nature of man, he cannot resort to specific abilities, "for then idiots and children would not be human," but to "a single power which is the source of these diverse abilities."²⁵ As he had done in *Reality*, he follows the clue of personal identity. There he found that identity could not be defined in terms of the body, nor yet in terms of the mind (pp. 248 f.). Then he plausibly (though fallaciously, since he neglected the possibility of defining it in terms of a psycho-physical combination) argued: "If refuge is not to be taken in a transcendent spirit indifferent to the passage of time. . . there is but the alternative of acknowledging some third factor. . ." (p. 250). In *Nature and Man* it is made explicit not only that there must be some constant factor,²⁶ but that this factor is to be called the "self." "A man is not a body," but a body is said to be "necessary" as well as "desirable" (p. 133). Neither reason nor memory nor will is the constant sought; the constant is the self which underlies all three (p. 138). Selves are "neither momentary nor non-temporal substances," for we know that we are both constant and that we change.²⁷

²⁴ P. 125. Since actual performance is depreciated, one fails to see why Weiss is so sure that, if a dog does not have a capacity to talk, nevertheless an idiot does, or that, if an idiot does have the capacity to talk, a dog does not.

²⁵ P. 127. He urges, "Everyone has at least a dim awareness of the fact that the child is merely too young and the idiot too unfortunate to be able to bring their singularly human power to adequate expression."

²⁶ "All changes presuppose something constant. Either, then, men are but passing shadows across the face of some more constant thing, or there is within them a constant factor which is expressed as a fluctuating life in a changing body. But men act on their own and are self-same throughout their careers" (*Nature and Man*, p. 136).

²⁷ P. 135. He continues: "A man is guilty of a crime he committed

The self, Weiss argues, is not a body, for it is not located in space, does not have bulk, and is not limited to the performance of physical actions (p. 241). Nor is it a state of the body as a whole at a moment of time, for then there would be no self-identity and no control of the body by the self. Nor is it a form for the body, unless this form be ascribed a "being and status of its own," for self-discipline and self-criticism require a self with some degree of independence and with the non-bodily power of knowing (p. 243).

Animals have psyches, man has a self. The animal's concern can express itself adequately as a bodily power; man's concern, however, can never be adequately expressed in his body. Being "too rich" for his body, the object of his concern has required "the use of at least a mind and a will" (p. 140). When selfhood is achieved there is capacity to use the body for the promotion of "what ought to be realized" (p. 144). Even a baby or an idiot "is concerned with some goods that do good neither to him nor even to mankind" (p. 138).

It would seem to us to be an empirical question whether Mrs. A and Mr. B and Infant C and Idiot D each have a concern of the sort ascribed. Can it be shown that all who are considered to be selves are, as a matter of fact or as a matter of probable theory, concerned with realizing "a good pertinent to others," and that our pets are never concerned with a good beyond their species? One suspects that Weiss will at least have to endorse a doctrine of man's real will, or real concern, as distinct from actual concerns, in the face of some of the phenomena. If—and this hypothesis is to be held open and to receive discussion later—Weiss does hold that all men have a real altruistic concern for other kinds of beings, then it is incidentally a little surprising that a writer who is so generous in his estimate of man is not apparently ready to exhibit a similar generosity in his estimate of the motivations of some animals. To be sure, a sensible naturalist is not an arbitrary reductionist, and does aim to deny no distinctions that he finds; still one has a feeling that perchance Weiss is a bit more

a year ago. His guilt is not decreased but in fact increased if he changes his face and fingerprints in the meantime."

zealous in guarding his distinction between man and animal than a "naturalist" ought to be.

If a self is defined as an interested being concerned with goods beyond its own species, one must, as we see it, at least be prepared for the contingent possibility that, pathetically, some biological descendants of human beings are not selves, and for the possibility that eddies of evolution in other than the human current may produce selves. An apriorism concerning fact and a rigidity—allegedly Aristotelian—concerning species would ill fit the proponent of an epochalism at this point. It would seem more like a "naturalistic" and "epochal" theory if selfhood were talked of as a potentiality of most men—and a potentiality which we find it desirable morally and (usually) legally to assume to be present in all "human" cases, even though we do not have good evidence that it is always a real potentiality. In view of the facts of generation, as well as in deference to human sentiment, it is easier to draw the line between biological species than to draw it somewhere in the human species. But this sort of pragmatic justification of the ascription of universal human rights (even though our legal and medical institutions cannot wholly embody them) is not the way of Weiss, who takes in his new terminology the more traditional outlook. One may like the good old moral notions, but one is not quite sure of their ontological grounding.

If, however, a critic objects that Weiss or any epochalist is not entitled to speak about "natures," it is to be observed that—unilateral impositions of certain empirical criteria of meaning to one side—the objection does not hold. Adherents of emergence may legitimately talk about the "nature of a species" or the "nature of man." By their promulgation of so general an "epochalism" they are not thereby inconsistently committed to asserting a material fixity of species in the world; the implication of their phraseology can be satisfied by a present relative stability of species. On the provision of presuming a considerable continuity of a core of proximate defining traits—a "core" which may itself undergo partial modification—one may speak, for instance, of human nature "changing," not just in the sense in which the manifestations of actual (conditioned or "cooked") human nature are altered through learning, but also in the inner or native

meaning, pertaining to real (or "raw") human nature. To be sure, one would be bound for purposes of careful theory to go beyond a proximate listing and finally to specify what essential characters of a core—or what *alternative cores*—define human nature; then one would be conceptually equipped to answer the question of when human nature emerged, and would also be formally prepared to answer the question of when human nature evolves or devolves out of itself into something else. It is to be admitted that the latter contingency has evoked, as far as I know, no anticipatory deployment from Weiss.

Doubtless the few citations which have been given excite a number of questions; let the reader be assured that a closer perusal of the text generates a host more. There are, first, the ranges of queries in pursuit of the evidence for the doctrine of "concern" in general and for the theory of the "self" in particular. Secondly, there are, from the sympathetic reader, demands for a great number of clarifications as to the inner structure of the theory. Articulations of the latter would undoubtedly induce a proliferation of the former. Space does not permit our running through the permutations and combinations of the questions concerning details held and types of support for holding them.

The preliminary portion of the doctrine of the self, which maintains that selves are "neither momentary nor non-temporal substances," nor states of the body as a whole at a moment of time, seems not out of accord with common sense. For this cause and for better reasons, it is credible. Weiss has here put forth considerable weighty argument, although it is given in capsule form. Selves are not momentary, and selves do engage in "self-discipline" and "self-criticism." It is quite appropriate to appeal to, and to attempt to develop, what is involved in selves as beings that do science, are responsible agents and are lovers. Of course, whether some knowings are bodily powers, or whether all knowing is a "nonbodily power" will depend in part upon one's definitions of knowledge and of body. And so, *mutatis mutandis*, for some other considerations.

The portion of the theory of the self which goes on to invoke definition in terms of its alleged characteristic concern cannot be

profitably discussed further until we come into possession of a more adequate comprehension of the definiens.

Surely Weiss is engaging in a proper and highly significant activity in seeking for the distinctive characters of man. Surely he is right that, owing to the success of natural and biological sciences, habits are extant which tend to ignore some of the data and to "reduce" man. Weiss has cautioned against both reductionism and its polar fallacy which he labels "unwarranted addition." He intimates that the latter has much better moral effects, but is equally bad intellectually. We have not concealed a suspicion that Weiss himself is guilty of "unwarranted addition" in attributing not minds^{**} but "concerns" to inanimate entities.

One might suggest tentatively that Weiss ought to: (1) scrap the application of concern to inanimate entities, until there is some positive evidence in support (unless, indeed, the term is going to be made to stand for some relation like "possibility of having a causal transaction with"); (2) discriminate *actual concerns* as specified sorts of behavior-tensions and conscious mental sets^{**} towards certain signs and possibilities; and (3) distinguish such actual concerns from *domains of concerns*, which may characterize a species. This is suggested on some such analogy as "attention" affords; there are acts of attention, which select from a larger field of possible attention. Indeed, one needs conveniently to distinguish a valuing being's conscious valuations at a moment from his dispositional valuations or interests which may lie momentarily latent; and one needs to separate both of these from the quantitative regions and the qualitative realms of values which typify a species. The domains of concerns will be functions of urges, sensitivities and powers; the "effective environment" of most species—one remembers James's dog in his master's

^{**} Panpsychism—moved "by the laudable desire to avoid the deep dualisms which have made mysteries of the union of mind and body and of the origin of life and thought"—"attributes minds, feelings and life to atoms, rocks, oceans and stars" and thus commits the "error of unwarranted addition" in "loading down the rest of nature with human characters there is no reason to believe it possesses" (*Nature and Man*, p. xvi).

^{**} I am frankly embarrassed as to how one should deal with apparent telic behavior in plants, with tropisms, etc.

library—is far smaller than the total cosmic environment; and one may use the extent of the ranges of such regions as a rough index of—or, indeed, as definitionally indicative of—the "level" of a species in the evolutionary and valuational hierarchy. If Weiss wishes to say with Plato, Aristotle and various mystics that man has some capacity (as manifested by a few men) of referring to, and wanting to comprehend or become acquainted with, the total environment, we can go along.

V

However, it is plain enough that Weiss is working toward the articulation of a more strategic metaphysical notion than is entertained in these desultory recommendations; and it is more fitting that we address ourselves to what Weiss does mean than to instructing him on how we would have simplified and neglected his business. The task is not easy. One can, however, tenaciously raise certain questions against a textual background; in addition, one may proffer certain distinctions which may aid communication.

If a "concern" is a being's way of reaching into the future, I find myself very ignorant of the concerns of most beings. Of course, I should like to testify for the edification of any old-fashioned strict behaviorists that I do live through felt concerns and do infer that other human beings undergo like experiences. Mr. Smith is concerned with how to meet his bills, is concerned with a new opportunity, is concerned with his children's education, is concerned with the stability of his nation or of the world. In these instances, there is always some awareness of one's solicitude—whether it be an excitement about a pleasing prospect or an anxiety about unfavorable portents.

Now one trusts that this familiar meaning goes a way in illuminating Weiss's meaning of "concern"; for it conveys the future reference and the present dynamism of orientation to prospects which are value-charged. However, the meanings are not equivalent, perhaps because the familiar use sometimes denotes

fears of evils²⁰ and because it always (unless amended by some acquaintance with depth psychology) includes occasions with some degree of conscious awareness—whereas Weiss's need not. For our author's application of the general category goes far beyond the higher animals. Moreover, at least some of his allegations about man universally would be empirically false if such an interpretation were made, and it is much more sensible to attribute a wider meaning than to ascribe material falsity to the account of our philosopher. Indeed, perhaps it would be appropriate to ask: Must concern remain behind the scenes, unconscious? Both Weiss and Whitehead apply the concept far beyond the conscious human context. However, its concrete specifications presumably become conscious in intentional devotion to objectives; and the philosophical anthropologist at least attempts to raise the source or sources of motivation into discursive consciousness if not into direct awareness.

In so far as we claim empirically to discriminate or infer the concerns of other men, it is not plain to us that all men's actual concerns are such as take account of all things and of their possible futures in an all-comprehensive future. The most that could be urged with confidence is that these selves never know when some new factor may not prove to be relevant to their actual concerns or future concerns, that by the principle of the connectedness of nature they are "involved" with things they do not now know, and that consequently they had better take more account explicitly of what is thus implicit.

If the "concern" covers every way of thus being "involved," and is not restricted to habit, physical "set," disposition and explicit consciousness, then speculatively one may ask whether other beings than men are not ultimately concerned with everything. A Spinoza would argue for a sense in which all the items of "nature/natured" are necessarily and wholly involved. Other thinkers,

²⁰ One wonders if Weiss's usage includes "concern" lest evils happen, or whether concern, as such, is only directed to goods, whatever emotional accompaniments may attend frustration. Much of his theory of value would suggest that all evil is only privation of good. However, one does note that not only are there natural evils (*Man's Freedom*, p. 248), but that bad will is possible (*ibid.*, p. 237).

holding to the idea of temporally isolated causal chains, would urge a meaning in which involvement does not obtain with respect to y when x appears and disappears without positive connection with it. The discussion then becomes a retail project of the special sciences; but we would now be prepared to acknowledge that a normal man is involved more extensively in circumambient nature than is a dog in the sense that he interprets a much wider range of stimuli, and that the man is less embedded in nature than the dog in the sense that he can play more strands of causation upon other strands to avoid or secure even remotely envisaged outcomes.

I am unclear as to how concerns are known, how (if they be actualities) they arise, and what they are. I do not know for sure whether some of them or all of them are disclosed as relatively complete actualities of direct experience, or are abstracted aspects of observed behaviors, or are constructs of scientific hypothesizing, or are posited on very general systematic ground. One may wonder whether a concern is held to be the "nature" of an entity, the dynamic aspect of an entity, some directional aspect of its vectors, or what. Should statements of concerns be framed as laws of dynamics and of motivation?

If inanimate things have concerns and if a concern is the way a thing has of reaching from the present into the future, it may seem plausible that a being's concern is identical with the whole striving or dynamic aspect of a thing, although not with its whole nature. "Things have natures so far as they allow for some occurrences and preclude others."¹¹ Then "nature" could be used with respect to an entity inclusively to name both the positive aspect of concern and the resistant recalcitrant aspect. However, one will not invest much confidence in this line of thought, not only on grounds of doubt whether such a distinction of positive and negative properties can be carried through, but because Weiss may be read as intimating that a thing's "resistance" expresses its concern as much as does its "insistence."¹²

The inquirer would also wish to know the relation of concern to—as cause or effect of, matrix of, emergent from, or even in

¹¹ *Man's Freedom*, p. 18.

¹² *Nature and Man*, p. 56; cf. pp. 45 ff.

contrasting independence of—affectionate tone, desire, expectation, interests, dispositions. One may read *Reality* as suggesting that concern be viewed as some sort of tensional relation which affectionate tone takes toward "items outside the reach of the senses." Inevitable insatiation or partial frustration is intimated as the source of exploration and inquiry (one does not know the counterpart of these in the activity of "lower" entities). However, the discussion is not simply biologically practical in orientation with respect to man; perhaps there are even overtones of mysticism in which the "interrelated whole of reality" is "an appropriate counterpart" of the "unexpressed core" of a being; the fine arts are definitely ascribed to the attempt to reproduce "in more favorable media" what is deeply felt but dimly apprehended in the "field of stimulation."³³ One is not sure whether concern is here confined to a tensional response to what is beyond the reach of the senses; one supposes Weiss's later teaching to have no such restriction, although concern is dynamic reference to where dynamism moves—into the future.

What is the relation, in the case of a man, between his concern and his "expectations"? Probably this, that expectations aid one in specializing a concern.³⁴ What is the relation of concern to "interests"? Weiss's own definition of interests is a peculiar one; interests are selected dispositions charged with "spontaneity" and "made flexible"; they convert the objects of disposition into "bounding parts of us" thereby "limiting our expectations."³⁵ Man's concern is certainly wider than his actual interests; possibly it is coextensive with the whole domain of his possible interests; probably it extends farther and denominates the whole realm of his possible dispositions. An actual disposition "is a bias delimited in reference to but a few contemporaries; it is a bias quickened not by the all-comprehensive possibility but by an expected situational version of it."³⁶ It might seem that our "dispositions" are ways of deploying energies in moving into the

³³ *Reality*, pp. 283 f.

³⁴ *Man's Freedom*, p. 169.

³⁵ *Ibid.*, pp. 170 f.

³⁶ *Ibid.*, p. 170.

future. Yet it will hardly do to say that a concern is a solicitous way of reaching into the abstract future and dispositions are ways of concretely reaching into a more definite future, for—sometimes at least—man's concern suggests an impartial universality which used to go with the idea of "reason," whereas a disposition is a bias. Perhaps Weiss means to treat dispositions as moving specifications of active selves with static concerns. Possibly, however, a disposition is an animal reaction (reaction of the psyche) to situational factors, and man's concern, in contrast, determines a supra-animal reaction, resident somehow in the emergent self.

VI

If one encounters difficulty in getting clear one neat consistent doctrine of concern, still one had better be very hesitant about positively affirming inconsistency, for there is much machinery around for making distinctions which can be used for effecting reconciliations, e.g., such possible distinctions as (a) conscious vs. unconscious concern, (b) native vs. learned concern, (c) ideal vs. actual concern, (d) real vs. apparent concern, and (e) universal general vs. specified concern. In addition, we have suggested a distinction between *actual concerns* of an entity and *domains of concerns* which are characteristic of a species. If he will use them, Weiss will find no dearth of handles for setting his furniture in an orderly pattern, although one may still be distressed by the awesome complexities of the phenomena.

Brief attention has already been directed to the fact (a) that concerns are held to exist in non-conscious entities and that in some form certain concerns do become conscious. Texts, however, are troublesome over (b), whether or not concerns may be acquired and expanded in a learning process. Most of our author's discussions sound as if—apart from the mutation wherein the new concern emerges—the concern is a constant, existing wherever the species exists, it being part of the defining essence of that species. Nevertheless, a few passages speak not only as if ontogeny were recapitulating phylogeny in each entity's becom-

ing a member of its species, but as if the live concrete human being were continually effecting small mutations of its concern in its process of "self-education." "Every one of us is not only helped but blocked by others To meet such frustrations we try to concern ourselves with more comprehensive possibilities than we did before. If we succeed we will be able to act from within in ways which take more adequate account of what frustrates us from without. We will change our concerns, evolve."³⁷ One aspiring to be an educated man is counselled "to learn . . . to internalize" the absolute good, "for only in this way can he condition himself adequately by what controls him."³⁸ Most of the time however, the discussion probably sounds to the reader as if the moral learning that takes place is not a process of changing the concern (which is always constant) but is something else, such as the progressive mastery of the body by the concern.³⁹ Sometimes, in compromise phrasings, the sense of universal responsibility is treated as an "hypothesis"—but as an "inescapable" one—of the creative moral self.

Perhaps the passages which represent men as already concerned with an all-comprehensive possibility and those—not infrequently in close proximity to the former—which represent men as being jogged progressively to move toward it are to be reconciled by some such distinction as that between implicit and explicit, latent and overt, or potential and actual. Man has to learn his proper end; like Augustine and Faust, he may make many false starts, although he is never completely in the dark and is led by some light. Such an interpretation banks upon the validity of distinction (c) or (d). "Unknowingly, unconsciously, privately, and steadily, from birth to death" man is said to have the most general of possibilities "in steady focus."⁴⁰ Apart from some pre-established mechanism which one feels is surely irrelevant, to assert that something is unconsciously held "in steady focus" sounds uncommon to the ear. Likewise it seems odd—in addition

³⁷ *Man's Freedom*, pp. 23 f.

³⁸ *Ibid.*, p. 89.

³⁹ E.g., *Nature and Man*, pp. 139 f.

⁴⁰ *Man's Freedom*, p. 24.

to the overtones of reification—to refer to selves as unconsciously clinging to the all-comprehensive possibility as their defining essence. Presumably this is an alternative locution for affirming the inalienable distinctive moral freedom of selves. (Of course, it is not at all strange to say that something unconscious is steadily present. Indeed, one recalls familiar facts regarding attention, and the observation of Peirce, which is also a perennial theme of Whitehead, that the ubiquitous greater generalities are more difficult of apprehension.)

Probably the solution of questions about distinction (b) will have relation to distinctions (c), (d), and (e), if these are employed, and may further bear upon the egoism-altruism polarity, since a normally developing human being might be said to move from preoccupations which are dominantly egoistic toward a genuine sociality.

Distinctions (c) and (d)—ideal vs. actual concern⁴¹ and real vs. apparent concern,⁴² respectively—can serve more clearly to bring out the normative property of the doctrine. If concern is constituted by, or is a direct function of what would express man's nature or what would fulfill and satisfy man, it is plausible that each individual Faust is experimenting in life with various "apparent" goods in trying to find his "real" object. One might also make a social application with respect to the course of human

⁴¹ Is concern the posited and ideal resultant of a given multiplicity of drives rendered harmonious? Is its unity that of a distributive need, like that of individual men in Hobbes and like that of individual passions in Santayana, resulting in a "social contract" or "reason"? Or—as seems textually more likely—is concern held to be antecedently unitary?

⁴² Weiss refers to man's "true concern" for the all-comprehensive possibility. If this be its proper object, one does not suppose that the concern is exhaustively constituted by a *wertfrei* intellectual apprehension of logical possibility. Perhaps the entertainment of such possibility is the primary form of man's recognition of his freedom, but on systematic grounds—including Weiss's too facile assimilation of the future to the good—one hazards the assumption that man's concern contains also springs of some sort of positive passion for the realization of value. However, the obscurity of the sense in which this *ur*-disposition is impartial, and of the sense in which it objective is universal, if any, is a matter for current complaint.

history, as objective idealists and James have done; "men collectively have been pushing, thrusting, fighting and dreaming to find an adequately fulfilling way of living together. The distinction of real vs. apparent concern is useful for parading the corrective effects of experience to which allusion has been made, and for plausibly exhibiting a sense in which Weiss holds that the creative good life is its own reward and sanction.

Distinction (e)—that between an indeterminate all-comprehensive possibility and less indeterminate possibilities which are specifications of the former—is explicitly made, and repeatedly used, by Weiss. The general idea of this procedure seems quite legitimate and—in the present milieu—important. Indeed, the notions of general regulative ideals, like "the truth" and "the good," meaningful but empty of concrete content, seem to me to have a role in cognition and practice—though, to be sure, only a latent functional role; yet some pragmatists in epistemology and some empiricists in morals seem to have supposed it to be their functional duty to attempt to erase these vague formal meanings out of deference to the sovereignty of denotable methods, procedures, psychical contents and social institutions.

The distinction is important to Weiss in a further sense. With the multiplicity of perspectives of his windowed monads, the idea of specification of a universal is apparently employed as a way to bridge the gap between the "good" as a common universal

"With a vivid sense of the "unshareable material or social prizes" and of the "exuberant mass of goods with which all human nature is in travail, and groaning to bring to the light of day," James nevertheless manifested an optimism at least equivalent to that of the appreciative traditionalist: ". . . society has shaken itself into one sort of relative equilibrium after another by a series of social discoveries quite analogous to those of science. Polyandry and polygamy and slavery, private warfare and liberty to kill, judicial torture and arbitrary royal power have slowly succumbed to actually aroused complaints; and though some one's ideals are unquestionably the worse off for each improvement, yet a vastly greater total number of them find shelter in our civilized society than in the older savage ways." The unbroken struggle between conservatives and various radicals is "simply deciding through actual experiment by what sort of conduct the maximum amount of good can be gained and kept in this world." From "The Moral Philosopher and the Moral Life," *Essays in Faith and Morals* (New York, 1947), pp. 198, 204 ff.

of their respective vistas upon the future and a particular good policy enacted by a specific agent, adopted in accord with his own provincial lights. The theory of perspectives, whether in Leibniz, Whitehead or Mead, is recondite, although we feel that we derive some glimmers of insight into the meaning of sociality therefrom; however, here also we encounter certain difficulties. The commonness of the unspecified or empty universal does not necessarily spell genuine mutuality. If all the content is egoistic when specification is made, then conflict is not removed by noting that the disparate objectives are pursued under the form of the good.

Besides re-emphasizing the importance of determining the character and objectives of man's concern, this gives one pause about referring to what allegedly must be biased as a "specification" of what must be unbiased, the greatest possible good.⁴⁴ The biased is *not* a specification of the impartial.

In reading *Man's Freedom*, we seem to find two quite different ethical systems. The first leads dialectically into the second, but one may arrest it for discussion before the transition is made. Let the first be called the "ethics of consistent policy." It allows the agent freedom to choose his ultimate end, imposing only practical consistency upon him; conscientiousness is conceived as consistency with one's previous commitments, whatever these may be. Now one feels that one understands how a doctrine of distorting perspectives may fit congruently with the "ethics of consistent policy." But one may make the old-fashioned suggestion that the object of the moral man's deliberate concern is not just any all-comprehensive possibility but the *best* all-comprehensive possibility, or any of those which are equally in the best discernible category of ultimate ends. The advocacy of this latter we suppose to be the teaching of Weiss's eventual ethics. In it the ultimate end is assigned by man's vocation. One does not readily find how the thesis of distorting perspectives is rendered

⁴⁴ E.g., *Man's Freedom*, p. 167. In what sense is our concern genuinely directed to the ultimate good when we have so distorted it as to "make it take a shape which is singularly pertinent to ourselves and the limited things which interest us . . ."? Does not the doctrine of such a concern become a doctrine of a hidden "real will" (or real concern) as against our "actual will" (or actual concern)?

coherent with this normative ethics. To be sure, Weiss does have a doctrine of guilt—of inevitable guilt—and perhaps man bears the incoherence with this brand of Cain.

VII

Let us now focus upon some of the many questions which have been suggested or asked above.

1. What evidence is there for concern in the sub-animal realms, especially in the region of the inanimate? (This is acute, since apparently Weiss wishes to affirm more of a distinction between the living and the non-living than Whitehead evinced, and is expressly wary of extending anthropomorphic patterns downward.)

2. What is the evidence for man's alleged concern? The doctrine is (apparently) inferentially posited and is not a sum of the phenomena of apprehensiveness, eagerness, worry, tension, ambition, tenacity, loyalty, etc.

3. At least with respect to the dynamism of the higher animals, does Weiss not make—or need to make—a distinction between apparent actual concern and implicit real concern, somewhat as idealists distinguished actual will and real will?

4. Did man become man all at once or does each embryo (biologically derived from human parents) have to become a man by the exercise of its own freedom in the direction of the enlargement of its own pre-human concern?

5. In view of the account of the emergence of selves, is it not strange that more "human" embryos do not fail to become selves? Why do not occasional embryos of anthropoid apes employ their freedom to become selves?

6. Is it perchance by definition that a self is said to have a concern for the perfection of all beings? Is it then conceded that many beings who are ordinarily called "selves" are not selves, and that conceivably the definition lacks exemplification in fact.

7. Is the doctrine of human concern empirically grounded on what a few men seem capable of reaching for? Are the capacities of some persons good evidence for the capacities of others—e.g., of idiots—and good ground for the obligations of these others?

8. How is the doctrine of distorting perspectives related to man's permanent obligation to the absolute good—his obligation to effect the maximal perfection of all other beings as well as of himself?

9. How is (static?) concern related to the dynamic aspect of a thing, and to the whole nature of the thing?

10. What is the matrix relation, or other relation, of concern to affective tone, desire, expectation, interests, dispositions, sentiments?

11. How general or how specific is a concern of a species supposed to be? How general or how specific is the concern of an individual?

12. Does each individual have a presiding concern in common with all other members of the species? Does he have a unique instantiation, specification, or realization of it? Does he have different specifications of it at different phases of his career, when dominated by different purposes and even during different complete acts?

13. Is one farther removed from a proper approach to the notion of human and animal concern if he conceives it as an energy needing discharge than if he envisages it as the conditions of fulfilling a being's nature, or than if, in turn, he pictures it as a response to a lure?

14. If man's concern, or its object, is something upon which men "focus," is it an unconsciously held ideal? Does philosophy have the role of a midwife to bring it to consciousness?

15. Can human concern be educated, or is it a constant? Can conscious specifications of concern be corrected? What are the tests of satisfactoriness and unsatisfactoriness?

I have assumed that a concern need not have a highly specified material content but that at least it is not totally amorphous with respect to what it requires for fulfillment. (If any beings run into "frustration," surely there must be some definiteness to the form or objects of their tension.) Is the frustration of concern only a dam against the release of energies or of drives which are conceived as totally indifferent to the form that the release takes? I think not. Presumably there are satisfactory forms of expression—and unsatisfactory discharges—even if the forms of satisfactoriness are highly general. If man's concern is simply an apprehension of a universal which remains ever empty, the trend of this interpretation is in error. Admittedly the concrete objects of here and now enter only derivatively and as specific materials in the actual deployment of vector forces in accord with policy, but presumably the forces have ideal ends in the shape of what would be really satisfactory. A normative role of concern is then assured.

One would like a more detailed treatment of the relation of concern to the formal and material aspects of motivation. Perhaps Weiss will provide such a treatment of human psychology in the future.

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BOOKS RECEIVED

SUMMARIES AND COMMENTS *

V. C. CHAPPELL AND STAFF

AARON, RICHARD I. *The True and the Valid*, Friends of Dr. Williams' Library, Eighth Lecture. London: Oxford University Press, 1955. 22 pp. 3s.6d. — A carefully presented investigation into the meaning of the adjective "true" as it occurs in philosophic discussion. The author opens with certain remarks on the comparative use of "true" and "valid" in logical discourse, and later brings in considerations regarding both the analytic-synthetic dichotomy and the principle of consistency. Several alternative positions are offered with the author's preference being just barely noticeable. — J. P.

ABEL, REUBEN. *The Pragmatic Humanism of F. C. S. Schiller*. New York: Columbia University Press, 1955. xii, 207 pp. \$3.50. — A general, and, for the most part, uncritical presentation of Schiller's philosophic views. It ranges from consideration of his logic, through his metaphysics, psychology, and value theory, to his interests in psychical research and eugenics. A detailed bibliography is included. — J. P.

BENJAMIN, A. CORNELIUS. *Operationism*. Springfield, Ill.: Charles C. Thomas, 1955. 154 pp. \$4.00.— Combines a critical analysis of the theories of Bridgman and his followers with an outline of the problems facing an operationalist theory of knowledge. The primary criticism is that operationalists have been reluctant to spell out the philosophical implications of their theory, and hence have wavered between too strict and too liberal an interpretation of its consequences. — R. H.

BLANSHARD, BRAND. *The Impasse in Ethics—and a Way Out*. Howison Lecture, 1954. University of California Publications in Philosophy, Vol. 28, No. 2, pp. 93-112. Berkeley: University of California Press, 1955. \$ 0.25. — A concise treatment of the present situation in ethical philosophy, elegantly stated and persuasively argued. The "impasse" in contemporary ethics has been occasioned by the criticism of ideal utilitarianism by the deontologists, the emotivists, and the naturalists. The "way out" is to be achieved by reformulating the tenets of ideal utilitarianism in the light of these criticisms, especially the third; goodness, i.e., is to be counted a complex natural quality, "rooted in human nature." — V. C. C.

* Books received will be acknowledged in this section by a brief résumé, report or criticism. Such acknowledgement does not preclude more detailed examination in a subsequent Critical Study. The summaries and comments will be written by the Managing Editor and his staff of Assistants, with the occasional help of others.

BRÉHIER, ÉMILE. *Etudes de Philosophie Antique.* Préface by Georges Davy; Avant Propos by Pierre-Maxime Schuhl. Paris: Presses Universitaires de France, 1955. xxiv, 307 p. 1.200 fr. — A collection of previously printed articles on Greek philosophy, from the pre-Socratics to the neo-Platonists. It includes an article defending the methods and aims of the historian of philosophy, in which Bréhier argues that the problems of philosophy cannot be properly understood outside of their historical contexts. — A. R.

BRILL, ALBERT. *Fundamental Fundamentals.* New York: Philosophical Library, 1955. viii, 199 pp. \$3.75. — An effort to distinguish and describe some forty fundamental categories for understanding man and the universe. Sample categories: Unity-teamwork, Intangibility, Gravitation, Infinite Negligibility. — J. P.

BUTCHER, S. H. *Aristotle's Theory of Poetry and Fine Art, with a Critical Text and Translation of The Poetics.* 4th. Ed. Prefatory Essay by John Gassner. New York: Dover Publications, 1951. lxxvi, 421 pp. Paper \$1.95, Cloth \$3.95. — An exact reprint of the fourth edition (1907) of Butcher's famous commentary on the *Poetics*, together with his Greek text and English translation. Includes a helpful introductory essay, written especially for this edition, on "Aristotelian Literary Criticism". — V. C. C.

CENIZA, CLARO R. *The Rational Basis of the Problems of Philosophy.* Oroquita, Philippines: mimeographed, 1955. 34 pp. — A record of the author's personal speculations about the origin and solution of problems such as existence, the self, space and time, and God. — R. H.

CLARK, LEADIE M. *Walt Whitman's Concept of the American Common Man.* New York: Philosophical Library, 1955. xiv, 178 pp. \$3.75. — An attempt to define Whitman's conception of and attitude towards "the common man," liberally supported by quotations from Whitman's prose and poetic works. A helpful bibliography is included. — J. P.

CONYBEARE, I. H. *Civilization of Chaos? A Study of the Present World Crisis in the Light of Eastern Metaphysics.* London: Markham House Press, 1955. 252 pp. 12s.6d. — From a study of Hindu scriptures, the author concludes that there is a "spiritual overturning in consciousness," after which there will be a purification and a Golden Age. The book is disorganized and diffuse. — A. R.

CRIPPA, ROMEO. *Il Realismo Integrale di M. Blondel.* Pubblicazioni dell'Istituto di Filosofia dell'Università di Genova, V. Milano: Fratelli Bocca, 1954. 202 pp. L. 1500. — An analysis of the realism of M. Blondel, with an attempt to distinguish its traditional elements from its novel features. Blondel's emphasis on the inseparability of philosophy and action is argued to be the foundation of his return to Christian realism. — A. R.

EHRENWALD, JAN. *New Dimensions of Deep Analysis: A Study of Telepathy in Interpersonal Relationships.* New York: Grune and Stratton, n.d.

316 pp. — A carefully presented discussion of telepathy and related phenomena. Part One provides a number of case studies. A cautious and tentative theoretical construction is attempted in Part Two, while Part Three explores the practical consequences for psychological therapy. Philosophical implications of the author's conclusions are suggested at several points throughout the book. — D. R.

ESSLINGER, WILLIAM. *Politics and Science*. Foreword by Albert Einstein. New York: Philosophical Library, 1955. xi, 167 pp. \$3.00. — Argues for the desirability and estimates the results of applying the methods of the physical sciences to the field of politics. — L. H. E.

GLASER, ABRAHAM. *This World of Ours*. New York: Philosophical Library, 1955. 492 pp. \$5.00. — A popular survey of human achievement in all fields, based upon a view combining metaphysical naturalism with ethical utilitarianism. — R. H.

INCARDONA, NUNZIO. *Rosmini e la Problematica Idealistica*. Milano: "Sodalitas"—Domodossola, 1954. 43 pp. — A study of Rosmini's idealism and its metaphysical and epistemological implications, special attention being paid to the dialectical interplay of the subject and the object of knowledge. — A. R.

KÖRNER, S. *Kant*. The Pelican Philosophy Series, A338. Baltimore: Penguin Books, 1955. 230 pp. \$0.65. — An attempt to present Kant's Critical Philosophy in a non-technical and up-to-date manner. The author is largely successful in translating complex doctrines into simple language and in relating Kant's thought to contemporary developments in philosophy, science, morals and theology. He stresses the continuity of Kant's thinking with our own, and expounds the Kantian position in the light of the criticisms which have been directed against it, in our and other times. Despite the simplicity of its language, however, the book is not always as clear in meaning or content as one might wish, and some of the interpretations—as when, in Chapter 2, space and time are made out to be "particulars"—are decidedly strange. — V. C. C.

KRISHNA, DATA. *The Nature of Philosophy*. Calcutta: Prachi Prakashan, 1955. 233 pp. \$2.25. — An interesting book, offering a forceful criticism of some classical and modern traditions in philosophy, especially of speculative idealism, phenomenology, and existentialism. The argument is not so much an attack on the explicit theories of these traditions as it is a criticism of their underlying assumptions about the purpose and limits of philosophizing itself. For the author this purpose has been and must always be the clarification of "confusions," as against the discovery of ultimate truths about reality. — R. H.

LOOFF, HANS. *Der Symbolbegriff in der neueren Religionsphilosophie und Theologie*. Kantstudien, Ergänzungsheft 69. Köln: Kölner Universitäts-Verlag, 1955. 208 pp. DM 14. — A model of German scholarship, comprehensive and carefully written. The first part is devoted to

an exposition of the views of the symbol taken by such thinkers as Goethe, Cassirer, Tillich, and Jaspers. The second part is a more systematic discussion of the symbol as it functions in theology and religion. — D. R.

MARCEL, GABRIEL. *The Decline of Wisdom*. New York: Philosophical Library, 1955. viii, 56 pp. \$2.50. — Analyzes, with considerable insight, the harmful effects of modern civilization upon the human spirit. To counteract these effects, Marcel proposes that modern man base his thought and action upon the fundamental Christian ideals of humility and charity. — L. H. E.

MARITAIN, JACQUES. *Bergsonian Philosophy and Thomism*, tr. by M. L. Andison in collaboration with J. G. Andison. New York: Philosophical Library, 1955. 383 pp. \$6.00. — Maritain's first book, published in France in 1913, and now translated into English for the first time. It marks, historically, one of the earliest expressions of that revived Thomism which has played such a large part in the intellectual life of contemporary France; and it represents, systematically, one of the most detailed and persistent "intellectualist" answers to the Bergsonian critique of "intellectualist" philosophies. The translators have done about as good a job as is possible in rendering what Maritain himself calls the book's "turgidity, the uncompromising bombast of its style." — V. C. C.

McLOUGHLIN, WILLIAM G., Jr. *Billy Sunday Was His Real Name*. Chicago: University of Chicago Press, 1955. xxix, 324 pp. \$5.50. — A biography of the famous revivalist, readable and scholarly, though occasionally rather diffuse. Its claim to see Sunday's work "in terms of a critical reorientation in the ideological structure of American life" is not fully realized; the book tends to waver between biography and sociology without satisfying the requirements of either. — A. R.

MICHELIS, P. A. *An Aesthetic Approach to Byzantine Art*. With a Forward by Sir Herbert Read. London: B. T. Batsford Ltd., 1955. xx, 284 pp. 30s. — A well illustrated study of Byzantine art, which analyses the elements of architecture and painting in terms of the aesthetic categories, "sublime" and "beautiful." The final section of the book argues that though these two categories are distinct, they are also interdependent because their source is the same, viz., "the aesthetic joy which includes every potential aesthetic emotion" (p. 275). — A. R.

PAP, ARTHUR. *Analytische Erkenntnistheorie: Kritische Übersicht über die neueste Entwicklung in USA und England*. Wien: Springer-Verlag, 1955. vi, 242 pp. \$5.70. — A careful discussion of the major logical and epistemological issues raised and solutions suggested by the original members and followers of the "Vienna Circle." The author shows the progressive elaboration of the positions of this school by its major figures and shows where opinions diverge within the movement. The discussion is amply documented with references to the standard literature. The book aims at reviving interest in the "scientific method of philosophising" in the German speaking world. — R. G. S.

PETRAZYCKI, LEON. *Law and Morality*, tr. by Hugh W. Babb. Introduction by N. S. Timashoff. The 20th Century Legal Philosophy Series, Vol. VII. Cambridge: Harvard University Press, 1955. xlvi, 335 pp. \$7.50. — A positivistic approach to legal and social philosophy with the explicit intent of raising the subject to the rank of a science, primarily by the introduction of psychologicistic interpretations. Both critical and constructive, the book treats a great range of topics, but without superficiality. — J. P.

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ROYCE, JOSIAH. *The Spirit of Modern Philosophy*. Introduction by Ralph Barton Perry. New York: George Braziller, 1955. xix, 519 pp. \$5.00. — A hard-cover reprint of Royce's "Essay in the Form of Lectures." Royce discusses modern philosophy both historically, by describing the views of some of its chief figures—mainly Germans of the nineteenth century—and systematically, in terms of some of its central ideas—e.g., evolution, freedom, and the reality-ideality dichotomy. The result is both a survey of modern thought and an introduction to the thought of Royce. — V. C. C.

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STRASSER, STEPHAN. *Seele und Beseltes: Phänomenologische Untersuchungen über das Problem der Seele in der metaphysischen und empirischen Psychologie.* Wien: Franz Deuticke, 1955. xvi, 253 pp. DM 16. — The author's own translation of the original Dutch edition published in 1950. His general standpoint is that of a phenomenologist, but he makes good use of the whole philosophical tradition as well as of recent work in psychology. — D. R.

STRASSER, STEPHAN. *Le problème de l'âme: Etudes sur l'objet respectif de la psychologie métaphysique et de la psychologie empirique,* tr. by Jean-Paul Wurtz. Bibliothèque philosophique de Louvain. Louvain: E. Nauwelaerts, 1953. xiv, 257 pp. 180 fr. — A French translation of the foregoing work. — D. R.

TILlich, PAUL. *Biblical Religion and the Search for Ultimate Reality.* Chicago: University of Chicago Press, 1955. x, 85 pp. \$2.25. — An extended version of the James W. Richard Lectures delivered by the author at the University of Virginia in the fall of 1951. The first six chapters develop the seemingly irreconcilable contrast between Biblical personalism and the categories of ontology. The last two chapters indicate briefly how they supplement each other. Theologians accuse Tillich of slighting Biblical concepts; philosophers taunt him for too readily despairing of ontology. In this book he tries to do justice to both. — D. R.

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WELLEK, RENÉ. *A History of Modern Criticism: 1750-1950.* Vol. 1, *The Later Eighteenth Century*; Vol. 2, *The Romantic Age.* New Haven: Yale University Press, 1955. 358, 459 pp. \$4.50, \$5.50. — The first two volumes of a four-volume study, destined surely to become the standard work in its field. Literary criticism in the broadest sense is the book's subject, but the author tries to avoid purely philosophical aesthetics at one extreme—Kant is given 3 pages to Schiller's 24—as well as unsubstantiated judgments of taste at the other. Since he tries to see the past as bearing upon and productive of the literary theory of the present, the book might be said to be more an account of the sources and growth of contemporary thinking about literature and criticism than a "history" in the usual sense. Professor Wellek has a rich store of scholarly knowledge at his disposal, and his interpretive generalizations are well supported by references and texts; yet the argument moves easily and clearly. A fine piece of creative scholarship. — V. C. C.

The Age of Analysis: Twentieth Century Philosophers, ed. by Morton White. *The Great Ages of Western Philosophy*, VI. Boston: Houghton Mifflin, 1955. 253 pp. \$3.00. — A collection of short selections from the works of 13 contemporary philosophers, held together by the editor's introductory comments and analyses. The book's title is somewhat misleading; it is more expressive of the editor's particular interests than of the general character of twentieth century philosophy. As it is, 6 of the 13 philosophers whose works are included think in primarily "non-analytic" ways. — V. C. C.

Belief and Will. Aristotelian Society, Supplementary Volume XXVIII. The Symposia Read at the Joint Session of the Aristotelian Society and the Mind Association at Oxford, July 9th-11th, 1954. London: Harrison and Sons, 1954. 240 pp. 21s. — Includes "Belief and Will," the Inaugural Address by H. H. Price, in addition to six Symposia: e.g., "Can an Effect Precede its Cause?" "When is a Principle a Moral Principle?" and "Sensing and Observing." Participants include Gilbert Ryle, Margaret MacDonald, A. J. Ayer and W. B. Gallie. The papers are much concerned with what one can and cannot say, in accordance with the current British, or Oxford, fashion. — V. C. C.

Experimental Psychology, ed. by B. A. Farrell. New York: Philosophical Library, 1955. xii, 66 pp. \$2.75. — A series of talks on some aspects of experimental psychology by various authors, originally broadcast over the B. B. C. in 1954. A good semi-popular presentation. — D. R.

Grande Antologia Filosofica, diretta da Umberto Antonio Padovani, coordinata da Andrea Mario Moschetti. Parte I, *Il pensiero classico*, 2 vols. Milano: Carlo Marzorati, 1954. lxxi, 803; xiv, 926 pp. — The first part of a proposed 8-part (15-volume) anthology, designed to cover the whole history of philosophy, western and eastern, from the beginnings to our own day. Each part is to contain a general critical bibliography for the period covered, together with essays on and crucial passages from the works of the chief thinkers or schools of the period. There are also studies of the treatment of certain notions in the period as a whole. The essays, written by various Italian scholars, each a specialist in the subject assigned him, seem balanced, informative and clear. The volumes are attractively bound and printed. This is altogether an impressive piece of work, both for the scope of the task undertaken and for the quality of its execution. The present part begins with the pre-Socratics and ends with the neo-Platonists. — V. C. C.

Grande Antologia Filosofica, diretta da Umberto Antonio Padovani, coordinata da Andrea Mario Moschetti. Parte II, *Il pensiero cristiano*, 3 vols. Milano: Carlo Marzorati, 1954. lxix, 619; xiv, 620-1753; xiv, 1329 pp. — The second part of the work described above, covering, in 3 volumes, the period from the first Patristic thinkers to the fourteenth century. The texts in these volumes, as in those on classical thought, are organized by topics, and are designed to express fundamental assumptions, principles and definitions of their various authors. — V. C. C.

The Josiah Macy, Jr. Foundation—1930-1955: A Review of Activities. New York: Josiah Macy, Jr. Foundation, 1955. xiv, 174 pp. — A general account of the accomplishments of the Macy Foundation, principally in medicine, in its first twenty-five years. — D. R.

The Social and Political Philosophy of Jacques Maritain: Selected Readings, ed. by Joseph W. Evans and Leo R. Ward. New York: Charles Scribner's Sons, 1955. xiv, 248 pp. \$5.00. — Twenty-five excerpts from books and articles, arranged under four headings: The Human Person, Man and Political Society, The Gospel and Human Society, and The New Socio-temporal Order. The selections have been chosen to represent their author's standpoint concerning the validity of the Christian "ought" in the reality of worldly affairs. — L. H. E.

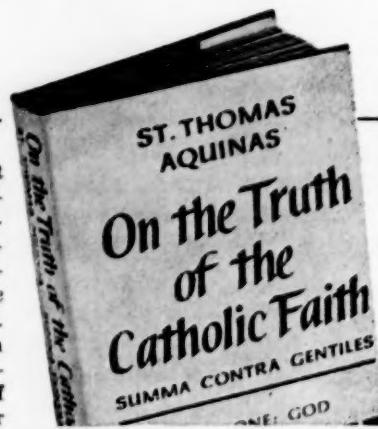
ANNOUNCEMENTS

The American Philosophical Association, Eastern Division, will hold its fifty-second annual meeting at Boston University, December 27-29, 1955. Non-members of the Association can get information concerning program and accommodations by writing to Professor Richard M. Millard, Philosophy Department, Boston University, Boston 15, Massachusetts.

The seventh annual meeting of the Metaphysical Society of America will be held at Fordham University in March 1956. The program and exact date of the meeting will be announced in the March 1956 issue of this *Review*; information can be obtained in the meantime from the Acting Secretary, Professor Sydney Rome, 1220 Selby Avenue, Westwood Village, Los Angeles 24, California.

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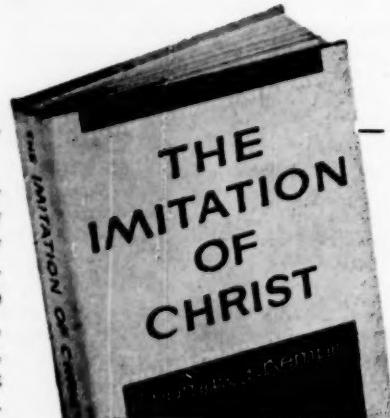
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